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VOL. 7 No. 9 SEPTEMBER, 1945

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any separator ever built is going to mean a lot in the future. So is the better bodied cream it is capable of producing . . . and its improved sanitary design.

From the standpoint of pure operating economy, the "Air-Tight" consumes less power and oil than any separator previously available . . . requires fewer parts for maintenance or repair . . . works longer hours with less attendance. In most plants it can reduce the cost of pumping milk and cream . . . and, of course, it saves whatever part of the product has previously been lost in foam.

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When your milk supplies go out in their clear glass bottles they need a perfect closure for complete balance—a cap that can stand continuous handling, give efficient home service, and completely protect the perishable contents. A Seal-Kap closure gives your package this balance and unites the perfect three —fine product, immaculate container, perfect closure.

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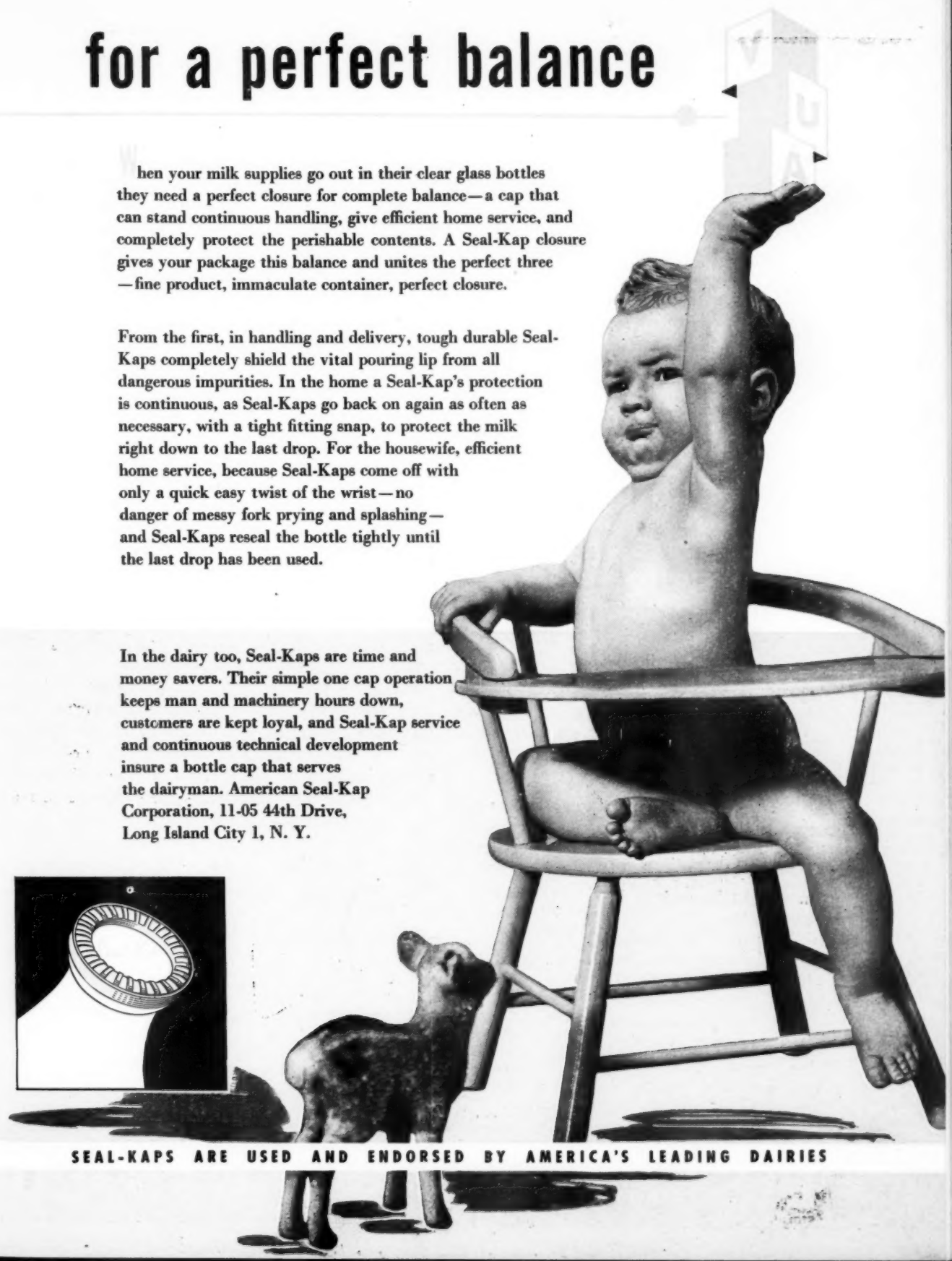
In the dairy too, Seal-Kaps are time and money savers. Their simple one cap operation keeps man and machinery hours down, customers are kept loyal, and Seal-Kap service and continuous technical development insure a bottle cap that serves the dairyman. American Seal-Kap Corporation, 11-05 44th Drive, Long Island City 1, N. Y.



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LIBERTY'S *Econotainer*

The SQUARE MILK BOTTLE

A product of the artistry of Liberty's designers and engineers, skilled workmen, the latest manufacturing and laboratory facilities, ECONOTAINER, Liberty's Square Glass Milk Bottle, is being hailed as a major contribution to the dairy industry.

Specialized experience in manufacturing square milk bottles provided Liberty with a background invaluable in the design and production of ECONOTAINERS. All the advantages of Liberty milk bottle improvements during 26 years of continuous operation, plus the many space-saving economies and conveniences of ECONOTAINER, are combined in this masterpiece of glass container perfection. Its features are evolutionary, manifold and beneficial to:

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Dairymen benefit by savings in plant operation, materials, freight; space in stock rooms, cool rooms and trucks; more compact, lighter weight bottles; smaller, lighter cases; easier handling, less breakage, less fatigue. More favorable customer reaction. ECONOTAINER brings increased sales, lower cost.

RETAILER

Dealers welcome the new ECONOTAINERS because they require up to 66 per cent less space in shelves or refrigerator. Twenty ECONOTAINERS fit same space as twelve standard bottles; are lighter, "different," and more attractive. They don't roll; better balance reduces tipping and bottle breakage. Cases require less storage space and are more easily handled.

HOUSEWIFE

Restricted deliveries cause crowded shelves in home refrigerators. Housewives like the new ECONOTAINERS for their space-saving ability. They're lighter, shorter; easy dripless pouring, less tipping and breakage; easier to handle than standard containers. They "stay put" and can't roll off shelves.

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Sapulpa ... ... Oklahoma

AMERICAN MILK REVIEW

Volume 7 NEW YORK, SEPTEMBER, 1945 No. 9

Wartime Controls Come Off

Governmental Agencies Act Quickly to Free Dairy Field of Quotas and Sales Restrictions—Heavy Cream Back on the Routes

WASHINGTON, D. C. — Acting promptly to build civilian supplies of dairy products and free the milk producing and distributing industries of as many controls as possible following the Japanese capitulation, officials of the U. S. Department of Agriculture, Office of Price Administration and Office of Defense Transportation in a series of steps removed major wartime regulations bearing on the field.

August 20th saw the suspension by the USDA of WFO 79 which had placed sales quotas on fluid milk, cream, buttermilk and chocolate dairy drinks. This action, made effective as of August 1st, affected milk distributors in the 138 largest cities of the country. It had been in force since the fall of 1943.

Secretary of Agriculture Clinton P. Anderson explained that the suspended controls were made possible by the high over-all level of milk production during recent months and the recent favorable trends in the supplies of all manufactured dairy products, including cheese, butter and evaporated milk. He said, "All elements in the milk industry and particularly the milk distributors who bore the brunt of the job—and even paid the administrative expenses for a time,—deserve the commendation and praise of the government."

Moves in Quick Succession

This was followed by ODT removal of the ban on daily milk deliveries; by the cancellation of WFO 93, which restricted sales of dry milk products to civilian consumers; by the discontinuance of butter purchases by armed force buying agencies; by the cancellation of the set-aside provisions of WFO 2, under which creameries and butter receivers had been required to set-aside certain percentages of monthly output for sale to governmental agencies; by the cancellation of WFO 8 and 13 permitting milk dealers to resume the sale of heavy cream, and permitting ice cream manufacturers to resume any desired volume of production without regulation as to the maximum butterfat content.

Milk distributors everywhere immediately began to press for increased sales of milk and were quick to resume distribution of heavy cream as soon as arrangements could be made to do so. Some dealers in a most favorable position to get whipping cream back on the routes were able to start deliveries early in September, while others are just now beginning to get into distribution.

Blanford Estimates Effects

"With New York City consumers again buying heavy cream, dairy farmers of the six states of the metropolitan milkshed can count on more money in their milk checks," said Dr. C. J. Blanford, administrator of the New York metropolitan milk marketing area, who estimated the increased return at a minimum of $250,000 a month in the present season.

With September and October 1944, as a base, the administrator's estimate points to an increase of $250,000 for September and $260,000 for October. These gains, shared among producers as part of the uniform price, means a rise of 5 cents a hundredweight for September and 6 cents a hundredweight for October.

"The full gain may not be realized in September," Dr. Blanford said, "for the reason that full distribution of heavy cream by all handlers did not begin September 1 and even now some handlers are lagging in putting whipping cream on sale. Several weeks may elapse before heavy cream sales again are normal and routine.

"The estimate for October, however, is a conservative figure projected from previous experience in the market. In fact, the estimate may turn out to have been too conservative in view of the consumer demand that is running at a phenomenal rate. Whether the superlative demand is a novelty whetted by consumer appetites for a product they haven't tasted in years will be discernible as the market settles into its routine.

"Good reason exists, however, to believe, in view of present-day consumer incomes as compared with pre-war conditions, that sales could run higher than we have been bound by experience to use in reckoning the gain in farm income."

Dr. Blanford explained that the increase in income was figured for 1944 sales when 24,894,000 pounds of whole milk were sold as light cream (19% butterfat) in the New York market in September. October sales of light cream absorbed 26,938,000 pounds of milk. However, heavy cream (40% butterfat) in the three years of 1939, 1940, and 1941 averaged 66,600,000 pounds of milk in September and 70,200,000 pounds in October. The switch back to heavy cream, which contains twice as much butterfat and requires, therefore, twice as much milk, will take more than double the amount of milk used in 1944. Actually, to reach the pre-war average of heavy cream sales, the market will require 41,706,000 additional pounds of milk in September and 43,262,000 additional pounds in October.

Point Values Reduced

OPA Rationing Division officials, for the period September 2 to 29, cut point values to 12 per pound on butter and to 4 per pound on major cheese items,

CHEESE SET-ASIDE ENDED

Washington, D. C.—USDA officials announced September 11 the termination as of September 1 of the cheese set-aside program, and the removal as of the same date of all quota controls on production of soft types of cheese. At the same time OPA officials announced that ration point values on all types of cheese would be eliminated effective September 12.

Producers and handlers of cheese thus will be required to fulfill set-aside obligations only up to September 1.

and removed points entirely on canned milk.

At the lowered point value for butter, an immediate pick-up in demand was experienced in all sections of the country. However, with more goods free for civilian outlets supplies in general have run beyond total use. Many trade elements now are pressing for a further reduction in points in order to permit the maximum possible current distribution.

It is still too early to tell what influence the removal of points on evaporated milk will have on civilian demand. There should, of course, be some pick-up. All restrictions on use by manufacturers, hotels, restaurants and similar establishments likewise were cancelled.

PLANS NUTRITION CONFERENCE

Ohio State's First Post-war Session to Feature Feeding

Columbus, Ohio.—The Ohio State University announces its fifth annual Animal Nutrition Conference to be held November 1 and 2, 1945.

The tentative program features Dr. C. F. Huffman of Michigan State College, Dr. W. E. Krauss of the Ohio Experiment Station, C. F. Monroe of the Ohio Experiment Station and Dr. T. S. Sutton of Ohio State University on problems of dairy cattle feeding. Dr. R. V. Boucher of Pennsylvania State College, Dr. R. M. Bethke of the Ohio Experimental Station, C. M. Ferguson of Ohio State University, and G. S. Vickers of the Ohio Poultry Improvement Association are listed for discussions on various phases of poultry nutrition.

Dr. J. L. Krider of The University of Illinois will discuss recent developments in farm nutrition while Howard Davison, Extension Swine Specialist of Ohio State University will lead a discussion on this subject. Walter Berger is being invited to discuss the feed situation while Director of Ohio Agriculture, John M. Hodson, will discuss progress in feed control.

The somewhat abbreviated program for this year's conference was decided upon by an industry-university committee in view of the still pressing labor situation in the feed trade. The committee in planning the program is beaming the subject matter to the neighborhood feed manufacturer and dealer, the man who is out on the firing line meeting the feeder with every-day problems in the feed business.

A banquet is being planned for the evening of November 1 with ex-Senator James P. Pope, now director of the Tennessee Valley Authority, as guest speaker.

NEW BY-PRODUCTS PLANT

Orangeburg, S. C.—West End Dairy will open a new by-products plant here when construction has been completed.

U. S. D. A. Assignments

Production and Marketing Administration Personnel and Functions by States Announced by

Assignments of functions and personnel for each state, as a further step in consolidating operations under the Production and Marketing Administration of the Department of Agriculture, were announced September 4, by Administrator J. B. Hutson. The assignments, effective as of September 1, 1945, cover primarily the programs formerly carried out by the state offices of the Agricultural Adjustment Agency and by the field offices of the Office of Supply, Commodity Credit Corporation.

In 30 states, field operations previously conducted by the AAA and the Office of Supply are now placed under a PMA State Director, with an Assistant State Director as an associate. Both "production" and "marketing" programs will be handled by these state offices.

In most states the Assistant State Director, under the supervision and direction of the State Director, will be primarily concerned with marketing programs; while the State Director, in addition to his over-all supervision, will be directly responsible for production activities. The State Director is administratively responsible to the PMA Administrator, but will report through the Director of the PMA Field Service Branch. With regard to program and operating matters, the State Director will receive general program instructions from the Director of the Field Service Branch, but specific instructions with regard to program operations will be sent to him directly by the PMA Washington branches which are responsible for the different programs.

Production and Marketing Programs

The "production" programs will include agricultural conservation, adjustment, crop insurance, sugar payment and related production activities. The "marketing" programs will include primarily school lunch, direct distribution, and related food use and preservation program. In addition, price support, loan, subsidy, purchase, sale, and marketing programs and other functions will be assigned to state offices by the Administrator.

State AAA committees will continue to perform the same functions as heretofore with respect to the agricultural conservation and crop insurance programs. In states where the AAA chairman is not the same individual as the new PMA State Director, he will report to the State Director. District and state office personnel of the former Office of Supply in most states will report to the State Director through the Assistant State Director, who is primarily concerned with marketing programs.

In 18 states, separate offices for "production" and "marketing" programs are being continued. In these states the Chairman of the AAA State Committee, continuing to use this title, will be responsible for those operations related largely to production. He will perform essentially the same functions as formerly, with such changes and assignments as may be made from time to time.

State Officers for Marketing have been designated for these 18 states. They will perform essentially the same functions as the former State Directors of the Office of Supply, being responsible primarily for school lunch, direct distribution, related food use and preservation programs, and for such other programs and functions as are assigned by the Administrator.

The AAA State chairmen in these states will report directly to the Director of the Field Service Branch, both administratively and in regard to program operations. The State Officers for Marketing will be administratively responsible to the PMA Administrator, but will receive program and operating instructions from the Branch Directors in Washington who are responsible for supervision of the various marketing and distribution programs.

Commenting on the state assignments, Administrator Hutson said: "Conditions vary greatly in the different states. For the present, it seems desirable to consolidate field program direction in single offices in many states, while continuing separate offices for the primary production and marketing function in others."

SPRAY SET-ASIDE ENDED

Washington, D. C.—U. S. Department of Agriculture officials announced here September 8th removal of the 60 per cent set-aside program on spray process dry skimmilk previously placed in effect for September. All set-aside requirements for this month, therefore, are ended. The Department, however, states that it expects to continue to buy spray dry skim for foreign claimants.

Manufacturers or receivers of spray must still comply with and fulfill all set-aside obligations contracted before September 1st. Likewise the reporting requirements of the order—WFO 54.4—must continue to be complied with.

No mention was made of the support program which will be followed. It is assumed that support prices for the present at least will continue unchanged.

Buy Victory Bonds

Editorially Speaking....

Forward with Confidence

NOW THAT THE WAR against Japan has come to an end we may well consider some of the immediate and near-future implications as they may affect various segments of the dairy industry.

Already almost all manpower and motor vehicle controls and curbs have been lifted. As a result much of the strain experienced in plant operations and on the routes due to labor shortage will be promptly relieved. Transportation of raw material and finished products will be greatly facilitated by the lifting of motor vehicle curbs just as soon as more new trucks and tires become available.

With the release of raw materials and metals for the manufacture of plant equipment and supplies much-needed replacements for worn-out or run-down equipment may soon be expected. As soon as the highly informative DISA Dairy Industry Exposition is resumed we may reasonably expect to see many new items of dairy equipment introduced for greater efficiency and economy in the processing of all dairy products. New developments in the field of packaging, born of wartime necessity, unquestionably will enhance the eye-appeal of dairy products and also aid in preserving still better the keeping quality of perishable dairy products.

Quotas on milk sales have been abolished and likewise the regulation pertaining to the percentage of butterfat in cream. As a result, increased volume of sales are inevitable as long as employment is maintained at a respectable level.

Gradual relaxation of government demands for dried milk and other dairy products may be expected to bring about considerable shift in the channeling of raw material from the farms—most likely to more cream separating on the farms, resulting in increased volume for the buttermaking plants.

Fortunately, the dairy industry is not confronted with the problem of disposing of high war goods inventories as in other industries and, with only minor exceptions, has no great reconversion problems to solve.

In the peacetime era directly ahead all signs point to greater activity on the part of the Food and Drug Administration in enforcing more rigid sanitation in dairy processing methods, plants and in the products manufactured. Voluntary quality improvement programs must continue with unrelaxing vigor and increasing support.

Elimination of all price controls cannot be expected momentarily. In the effort to prevent post-war inflation it is felt in official circles that prices will need to be controlled until relationships between supply and demand are in better balance. In the interim, however, some adjustments in wage levels and prices may be anticipated.

Altogether, the dairy industry may view the immediate outlook with considerable optimism and confidence.

Delivery System Prospects

OFFICE OF DEFENSE TRANSPORTATION's lifting of the ban against daily deliveries of milk has, naturally, wide implications to those engaged in the distribution end of the business. Experience has proved conclusively that numerous benefits have been derived from the wartime regulation that required curtailment in the frequency of retail and wholesale deliveries. Now, with the lifting of the restriction, what about future possibilities?

It must be admitted that there are arguments both for and against a return to every-day deliveries. Milk distributors, cooperative marketing organizations and leading economists concede that distributing costs have been reduced by every-other-day service; strong tendencies to advance selling prices have been held in check by the effected savings; driver-salesmen have had their pay checks increased substantially by the heavier loads; and consumers generally have been quite satisfied with the restricted service.

At first thought one is inclined to believe that every-other-day operation has proved so successful and satisfactory that little consideration need be given to the possible return of the more frequent every-day system. But despite the obvious benefits and advantages mentioned there are instances of pressures being directed toward the return of daily milk deliveries, the strongest perhaps being that of union driver officials who sound the patriotic appeal that the return to daily delivery will supply more driver-salesman jobs to returning veterans. Of course, one may envision, too, how such an appeal could be motivated by a desire to swell more initiation fees and a greater number of regular dues-payers.

However, aside from these pressures by a limited number of union officials, the men on the routes who actually deliver the milk, by and large, are strong for the every-other-day delivery system. The handling of heavier loads with less physical effort, the shorter working day and the fatter pay envelope have created a driver-salesman satisfaction with E. O. D. that will set up considerable resistance to those who would throw it out.

Competitively, at the moment there seems to be little justification for fear that daily deliveries will be forced upon the trade. The "spread" today in practically all markets is so small that a competitor who would offer daily service in a quest for patronage would not be able indefinitely to underwrite the losses, inevitable under existing conditions. And likewise, due to the satisfaction of housewives with E. O. D., it is highly questionable if a daily delivery lure would carry any weight whatsoever from a competitive standpoint.

Altogether the benefits of E. O. D. have been so amply demonstrated that it is to be hoped that the system will be carried forward into the future with the objective of a constantly expanding operation of proven service to producers, the public and to the industry's operating personnel.

Feeding the Dairy Herd

ATTRACTIVELY and effectively illustrated, with appropriate text, is a special circular on "Feeding the Dairy Herd" recently issued by the Extension Service, College of Agriculture,

AMERICAN MILK REVIEW

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University of Wisconsin. When opened, the inside of the circular is in the form of a chart to be tacked up in the cow barn. In large type to be easily read, the chart supplies a series of dairy rations to be fed with varying proportions of roughage and pasturage for a balanced ration. By deciding first the class of roughage on hand, the feeder can then determine from the chart the amounts of other feeds by choice that should be given to obtain the highest milk production.

The circular also contains other worthwhile information about feeds, feed mixing, and relative feed values.

In the future program to stimulate greater production more efficiently and economically without increasing herd population, this new Wisconsin University circular should be highly effective and of much value to dairymen.

Stands for Honorable Service

ILLUSTRATED on the front cover of this issue of the "Review" is the Honorable Service Emblem awarded to veterans of the costly world-wide war, now happily terminated by the acceptance of formal surrender by Japan.

This emblem should be recognized and remembered by every American for its meaning that the wearer has received an honorable discharge from some branch of our nobly victorious armed forces and for carrying forward his or her duties, frequently under the most hazardous conditions at the risk of life and limb.

The Army, the Navy and the Rehabilitation and Reemployment Administration feel that it is highly important for everyone to become familiar with this Honorable Discharge Emblem.

When we notice the emblem in the lapel of a veteran's coat, it is our duty and obligation to accord that man or woman the recognition he or she so justly deserves.

TO APPEAL TAX LAW

Pierre, S. D.—Tax Director Roy Nord refused August 30 to concede that South Dakota's butter substitute tax law is unconstitutional, and said a Circuit Court decision so declaring it will be appealed to the State Supreme Court.

Circuit Judge R. C. Bakewell, of Plankinton, had held that the tax is not a revenue measure but one designed as an economic regulation to equalize the "tax burden" of dairy interests. His opinion said it is contrary to both state and federal constitutions.

Judge Blakewell, described the tax as a "subsidy for dairy interests" and termed it "neither fish nor fowl," but "a product of government by organized minorities."

MEADOW GOLD PURCHASE

Fosselman Creamery of Pasadena, Cal. Bought by Beatrice Subsidiary

Announcement has been made that effective September 1, Meadow Gold Dairies of California, Inc., a wholly-owned subsidiary of Beatrice Creamery Co. of Chicago, acquired the business and properties of Fosselman Creamery, Inc., of Pasadena, California. This is the first acquisition by Beatrice in Southern California.

Fosselman Creamery, Inc., has been engaged in the dairy business in Pasadena for the past twenty years.

Harold R. Orme, president of Fosselman Creamery, Inc., will become the operating head of Meadow Gold Dairies of California, Inc. All the present personnel of Fosselman will continue in their present capacities.

Operations and policies of Fosselman Creamery will continue unchanged.

SHEFFIELD COMPTROLLER

Carl L. Schmid has been appointed comptroller of Sheffield Farms Company, it was announced by F. J. Andre, president, September 6.

C. L. Schmid

Mr. Schmid has been associated with Sheffield Farms Company as a statistician. He was previously in the banking and milk business in the Midwest.

More recently Mr. Schmid was eastern district sales manager of the Dairy Container Division of the Owens-Illinois Glass Company.

HEADS CHEESE INSTITUTE

Chicago, Ill. — Election of Harry I. Hoffman, head of the J. S. Hoffman Co., cheese manufacturers of Chicago, as president of the National Cheese Institute was announced August 27. He will head a group of officers recently elected by mail ballot for the 1945-46 term.

A veteran of 35 years in the cheese business, Mr. Hoffman began his career as a laborer in the South Water Street Market. He also served for many years as a cheese buyer and grader in the Wisconsin area. As president of the Institute, he succeeds Lawrence G. Butler, president of Lakeshire-Marty Co., Division of The Borden Co.

Others elected to office were the following:

Frank Lewis of the Shefford Cheese Co., Indianapolis, first vice-president; named second, third and fourth vice-president, respectively, were Walter Lamb, N. R. Clark and W. H. Pauly; C. E. Zuercher of the Chicago firm of the same name, treasurer. Dr. E. W. Gaumnitz, former Chief of the Dairy and Poultry Branch of USDA, is executive secretary.

Headquarters of the National Cheese Institute are in Chicago.

U.S.D.A. PRODUCTION ESTIMATES

Washington, D. C.—BAE July production estimates evaporated case 435 million pounds, last year 361 million pounds, increase over last year 20 per cent, over 5 year July average 51 per cent. Condensed 14,582,000 pounds, last year 12,770,000 pounds, increase over last year 14 per cent over 5 year average 84 per cent. Skim milk total human 69.6 million pounds, last year 67 million pounds. Increase over last year 4 per cent.

Wholemilk 24.2 million pounds, last year 16.6, increase 46 per cent above a year ago, 325 per cent above 5 year average. Stocks on hand July 31 evaporated case goods 204,368,000 pounds, last year 321,083,000 pounds, decline 36 per cent. Condensed case goods stocks 13,987,000 pounds, last year 12,811,000 pounds, increase 9 per cent over last year and 50 per cent over 5 year average. Dry whole milk stocks 23,003,000 pounds, last year 23,076,000 pounds.

DAIRY INDUSTRY CONFERENCE

Department at Cornell University to Hold Meeting October 25 and 26

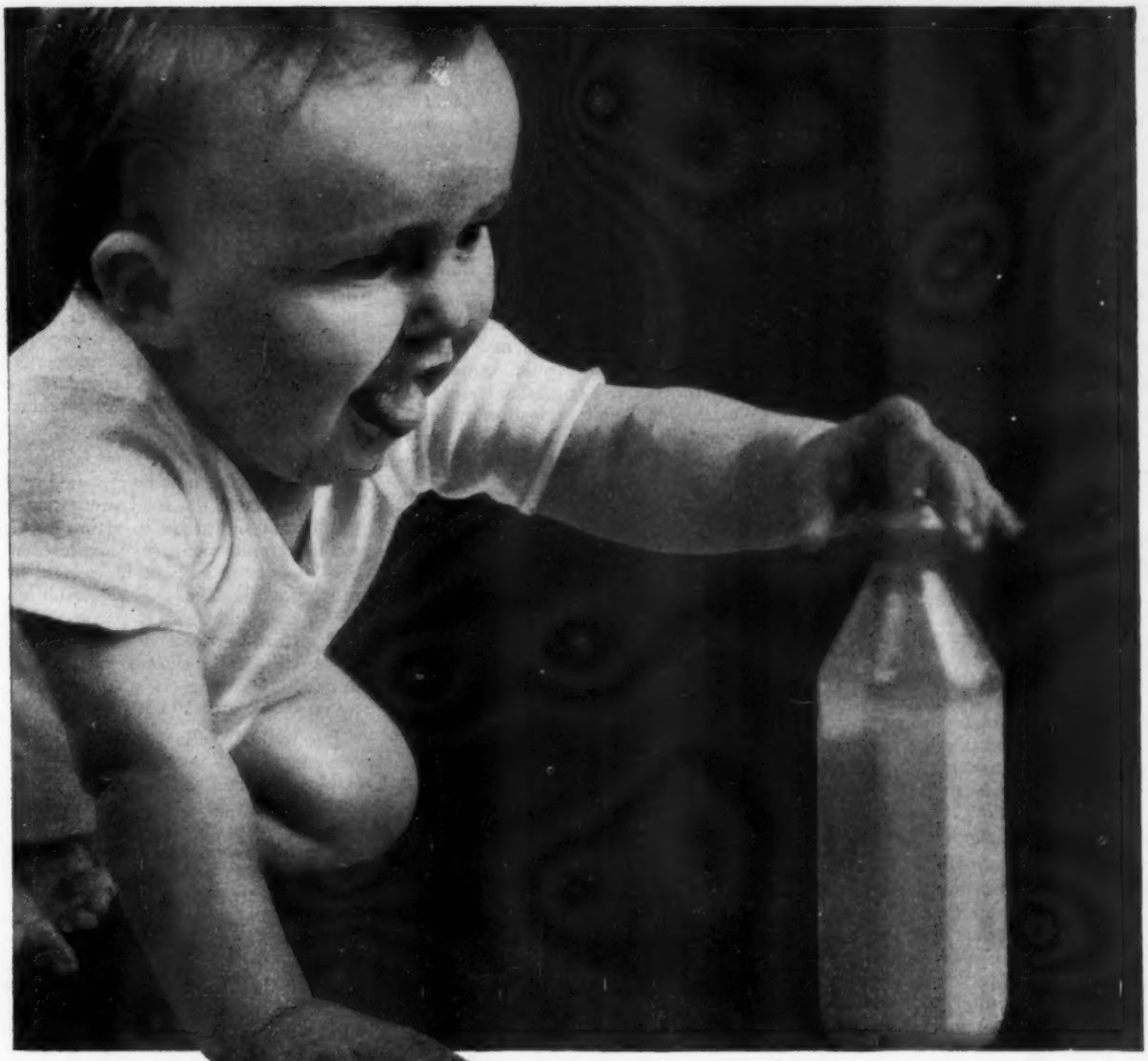
A post-war dairy industry conference has been arranged to be held in the Department of Dairy Industry at Cornell University, Ithaca, N. Y., on October 25 and 26.

The subjects to be discussed are of interest in the field of milk and milk products. They include such topics as every-other-day delivery of milk, square and paper milk bottles, new sterilization procedures, developments in controlling mastitis, improved washing powders, vitamin C in controlling oxidized flavor, pasteurized milk cheese, insect control and DDT, artificial breeding of dairy cattle, post-war trends in milk production and dairy products, etc.

Any one interested is invited to attend. Further information may be obtained by writing to A. C. Dahlberg, Department of Dairy Industry, Cornell University, Ithaca, N. Y.

PLANS NEW PLANT

Lynchburg, Va.—A new plant on Fort Ave. is planned by Lynchburg Dairy, Inc., according to C. R. Fleshman, general manager and vice-president.



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Key man, yes, but only one of many in your community.

Fact is, all infants and growing children need Vitamin D every day to help build strong bones and sound teeth. For many, this means drinking Vitamin D Milk at least three times daily.

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The General Mills "Dollars for Dairies" conversion program is expressly designed to help you exploit the steadily growing market for your Vitamin D Milk in the younger age group. Sales materials are "tailor-made" to fit any special problems . . . nine major sales programs which form one of the most powerful groupings of advertising ever assembled for Vitamin D Milk.

We invite you to write for full details and a free inspection of the "Dollars for Dairies" brochure, presented just as it is used by many leading dairies who have successfully converted to Vitamin D Milk.

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Special Commodities Division

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Butter Supply Grows

USDA Frees All Set-aside September 1 and Civilian Volume Rises — Demand Up With Points Down

Butter supplies in the Metropolitan area have been built up in commercial channels through the freeing of all set-aside obligations as of September 1st. Price-wise, the position continues full steady to firm on the tops which still largely are being sold to regular customers in established channels at the full margin permitted jobbers. There have, however, been some open market offerings of fine to fancy lines (usually not better than 92 score) at the ½c margin permitted first receivers.

The full first wholesalers' mark-up has been much more difficult to obtain on 90 score and poorer, some of which have been sold at varying concessions with goods below 90 score in many cases impossible to place even when shaded well below the creamery base price.

Support Policy Not Clear

There is need for prompt clarification from Washington of the position of USDA with respect to the support program. It is assumed that the government, under present legislation, is committed to the purchase of surplus butter which is offered at or below limits,—which also represent existing support rates.

Consuming inquiry is expanding locally with the end of the holiday season, and the recent drop to a 12-point-per-pound ration value has been followed by a general build-up in consumer inquiry. Some hotels and restaurants here have begun to resume butter sales with meals, though probably the bulk still are on a butterless program.

Production has been coming down a little faster, though the make continues above last year.

There is growing agitation for a further reduction or even a complete removal of ration point values, a move which many feel would restore merchandising operations to a more normal basis. There are others, however, who fear that further ration point cuts or removal would quickly induce a pinch in supplies.

STRIKE VOTE AUTHORIZED

Unionized Plant Workers Demand Wage Increases and Other Benefits

Following a meeting of 220 union members representing engineers, firemen, oilers and maintenance men employed by the major milk companies in New York City, Long Island and lower Westchester County, an attorney for the unions affiliated with the A. F. of L. announced that a strike vote had been authorized.

The union attorney stated that the members voted to reject milk company offers of a $2.50 a week pay increase and six paid holidays annually. He stated also that the unions request a 40 hour week; wage increases between $5.00 and $7.50 a week; eleven paid holidays annually; and sick leave benefits.

Milk distributors affected, according to the union spokesman are: Independent Milk Marketers, Inc., and the Milk Dealers Association of Metropolitan New York, Inc.; M. H. Renken Dairy Company, Ferndale Farms, Dairy Field, Inc., Dellwood Dairy Company, Inc., Grandview Dairy, Inc., Muller Dairies, Queensboro Farm Products, Inc., McKay Milk Products, Inc., Adler's Dairy, Eastern Farms Products, Freeman Dairy, Gimpel Farms, Inc., Gold Medal Farms and Wayne Milk Corporation.

TO BUILD NEW PLANT

Niagara Falls, N. Y.—Edwin J. Wendt plans to erect a dairy building on the north side of Buffalo Ave. at Eighty-sixth St. here, at an estimated cost of $100,000.

Britain Needs Workers

Efforts Being Made to Induce Former Employees to Return to Their Peacetime Jobs in Dairying

Glasgow, Scotland *(Special to the "Review")*—The labor shortage in Britain resulting from the change-over from war to peacetime production has been intensified in certain industries where the release of workers has not been on a sufficiently controlled basis to meet requirements, Especially is this so in the vital food processing industries where a serious danger is now threatening—not so much as a result of the lack of raw materials as from the lack of workers to effect the conversion from raw to processed goods.

An appeal has now been issued to 10,000 workers in the food processing and production industries to return to their former employments by application to the Ministry of Labour for release from existing work. The need to recruit heavily for these industries is also appreciated and a further drive is being made to effect this. The shortage of labor on the food industries is stated to be between 8,000 and 10,000.

But so far, workers have not proved very anxious to return to their former employment and the position is far from bright. The fact that a man worked in a food industry for 20 to 30 years prewar, gaining a high degree of skill, does not necessarily mean that he enjoyed working in that industry. During the war he has had the chance to find work he did enjoy, in which case he is far from anxious to revert to his previous work. If he merely shifted to equally unpleasant or uncongenial work for the sake of higher money he is still less anxious to return to his first work.

Other steps being taken include the extension of leave to Army men, not only in Britain but from Germany, who are prepared to assist in agricultural work.

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PASTEURIZATION by High Temperature-Short Time

Description of Method and Equipment with Outline of Operating Procedures — Advantages over Batch Method

By W. W. CAVANAUGH
Assistant Manager, Industrial Sales Department, York Corporation

PART I

YEARS OF RESEARCH in the laboratory and in the field have determined safe temperature and holding time standards and corresponding equipment specifications for the pasteurization of milk and milk products. Two processes are practically universally acceptable, with slight variations in temperature and holding time adopted as standards in some localities; they are defiined in the 1939 Milk Ordinance and Code recommended by the United States Public Health Service as quoted below:

"The terms pasteurization, pasteurized, and similar terms shall be taken to refer to the process of heating every particle of milk or milk products to at least 143 deg. F. and holding at such temperature for at least 30 minutes, or to at least 160 deg. F. and holding at such temperature for at least 15 seconds in approved and properly operated equipment."

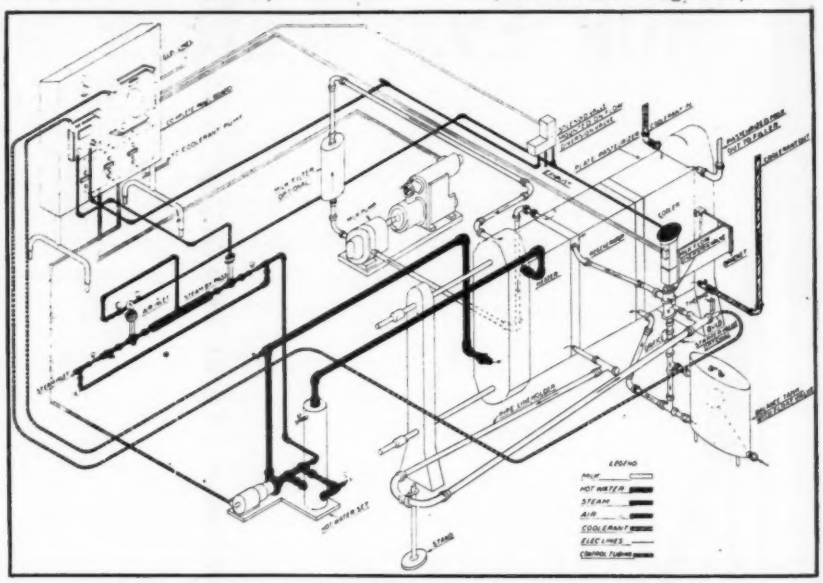
The history of pasteurization and of its development and use in the milk industry up to the introduction of the high temperature-short time holding process is well known. It should be remembered, however, that low temperature pasteurization was a gradual development from a crude beginning to what we today consider a well controlled process. This has also been the case with the high temperature-short time holding process introduced in the late 1920's. It is with this latter method that we are dealing.

Briefly reviewing the development of the high temperature-short time process of pasteurization, the first commercial installations, as far as we know, consisted of tubular apparatus for regeneration and cooling an an electrical appliance for the final heating of milk to the pasteurizing and holding temperature. With this assembly the control problem was a difficult one. Heat input for the milk was practically constant, and for any change in demands it was necessary to fluctuate the milk flow to compensate for changes in heat requirements. Final milk temperatures varied considerably, usually above the creaming danger point. Overall performance, compared with today's standards, was poor.

About this time we introduced plate heat exchangers in this country. A number of these machines were in operation as heaters, regenerators, and coolers in low temperature pasteurizing systems. With its known efficiencies, this machine was readily engineered for the high temperature application.

Hot water instead of electricity being used for the final heating of the milk, coupled with the fact that we were working close to the optimum temperature-time combination where cream line became affected, made it necessary to develop control apparatus that would positively regulate milk temperature between very narrow limits, and also operate a milk pump stop in the event below-

(Continued on Page 353)



Flow Diagram of Short Time—High Temperature Pasteurizing System

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Arithmetic in the Dairy Plant

Formulas and Calculations Especially Useful to Milk Industry Operators in Improving Efficiency and Preparing Required Reports

(By L. C. Thomsen, Associate Professor of Dairy Industry, University of Wisconsin)

In the course of the North Dakota Dairy Manufacturers' Conference held recently at Fargo, L. C. Thomsen, Associate Professor of Dairy Industry of the University of Wisconsin, presented a series of three papers upon timely subjects that are of particular interest to operators in the dairy industry.

Following is the full text of Professor Thomsen's final paper of that series which treats the subject of dairy arithmetic, not only for simple everyday usage but also for making calculations which are presently compulsory in compiling various reports to government agencies.

AS A RESULT of their experiences during the past two years most dairy plant operators will bear me out when I make the statement that they have practiced more arithmetic than in any other period of similar duration. They may have chafed a bit at the extra work involved, but by this time they know more about their business than they ever did. They have wondered, as many of us have, at some of the arithmetic involved.

In general, federal agencies have made sincere attempts at simplification. If they have not always succeeded that can also be overlooked. I am sure they had a difficult time hiring accountants with dairy experience. We can use all those available with the right experience in the dairy business. If, therefore, we are amused at some of the procedures and methods suggested by the various federal agencies with which we have to deal we can afford to be tolerant because some of the regulations, together with the attendant bookkeeping may very well have been a blessing in disguise.

Prof. L. C. Thomsen

Fundamental Calculations

Dairy arithmetic is not particularly complicated. Aside from basic addition, subtraction, multiplication, and division, there are only four specialized calculations which are necessary to solve the majority of dairy problems. Three of these deal with percentage (an adaptation of decimals) and the fourth deals with ratio and proportion.

I hesitate to take your time on these fundamentals; but on the other hand, we find that they are such an important part of various calculations, that I shall set them down here.

1. To find the per cent of a quantity, multiply the quantity by the expressed percentage and divide by 100.

In dairy language this might be written as follows:

$$\text{(A)}\quad \frac{\text{lbs. product} \times \text{\% of ingredient}}{100} = \text{lbs. of ingredient}$$

2. To find what per cent one quantity is of another quantity, divide the first quantity by the second quantity (the quantity with which it is being compared) and multiply the result by 100.

In dairy language we have:

$$\text{(B)}\quad \frac{\text{lbs. of ingredient}}{\text{lbs. of product}} \times 100 = \text{\% ingredient}$$

3. To find a number of which another number is a certain per cent, divide the given number by the per cent, and multiply the result by 100.

In dairy language this is:

$$\text{(C)}\quad \frac{\text{lbs. of ingredient}}{\text{per-cent of ingredient}} \times 100 = \text{lbs. of product}$$

4. Ratio and proportion are used to compare two or more numbers. A proportion may be expressed in the following manner: 2:4::8:16 or preferably

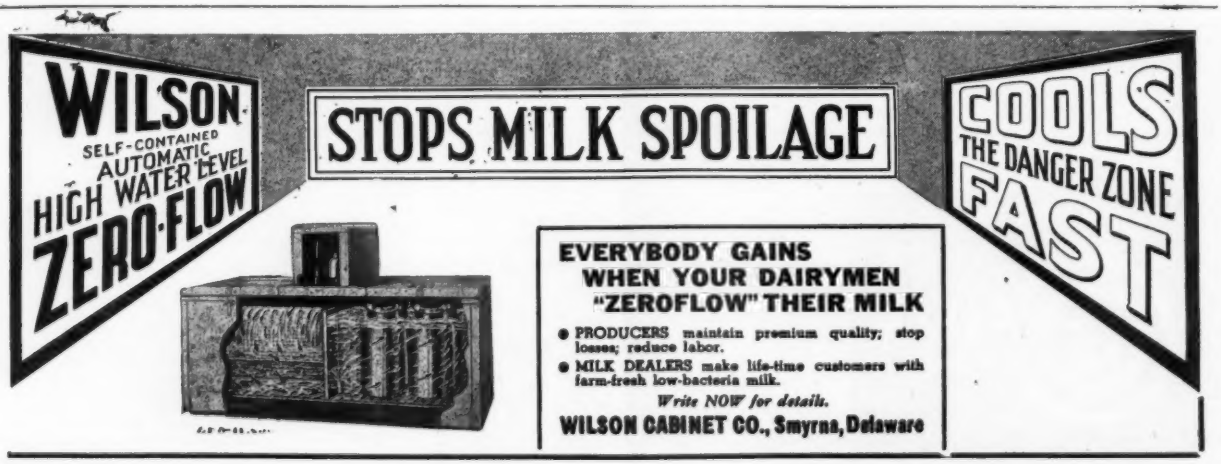
$$\text{(D)}\quad \frac{2}{4} = \frac{8}{16}$$

The value of the proportion may expressed by cross multiplication as indicated:

$$\frac{2}{4} \times \frac{8}{16}$$ which then becomes $2 \times 16 = 4 \times 8$.

Pearson Square Method

Thus it becomes a simple matter to find the value of any missing number.



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Ratio and proportion find their greatest use in standardizing operations of all kinds. The Pearson square was developed by Dr. Pearson for the purpose of establishing the proportion, as in the following example:

Assume that a 3 per cent milk is to be added to a 23 per cent cream to make a mixture testing 18 per cent.

Test of rich product ...23
18 desired test
Test of thin product ... 3
15 parts by weight of 23% product in mixture
5 parts by weight of 3% product in mixture

Two examples for completing the calculation might be as follows:

(a) It is desired to use up 1000 lbs. of the 23 per cent product. How much of the 3 per cent product will have to be added?

$$\frac{15}{5} = \frac{1000}{?} \text{ or } 5 \times 1000 = 15 \times ?$$

$$(E) \text{ or } \frac{5000}{15} = 333.33 \text{ lbs.}$$

(b) It is desired to produce exactly 1000 lbs. of the 18 per cent product. How much of each of the 23 per cent product and the 3 per cent product must be used?

$$\frac{20}{15} = \frac{1000}{?} \text{ or } 15 \times 1000 = 20 \times ?$$

$$(F) \text{ or } \frac{15{,}000}{20} = 750 \text{ lbs. of the 23\% product}$$

$$\text{and } \frac{20}{5} = \frac{1000}{?} \text{ or } 5 \times 1000 = 20 \times ?$$

$$\text{or } \frac{5000}{20} = 250 \text{ lbs. of the 3\% product}$$

Calculating Depreciation

One of the common applications of percentage is of especial importance to those who have income tax reports to make. Depreciation, in the past, has been totally ignored by many plant operators. The Bureau of Internal Revenue has established certain depreciation allowances for income tax purposes. Allowances are made for variations in methods used for calculating depreciation. Seven methods have been recognized. They are:—(1) the straight line method, (2) arithmetic progression method (3) geometric progression method, (4) fixed per cent of book value method, (5) the sinking fund method, (6) the unit cost method, and (7) the annuity or compound method. With the exception of methods 1 and 2 a well trained accountant is usually required to set up depreciation schedules. In most mathematical problems it is advisable to use letters to represent statements or items entering into the solution of a problem. For the straight line and arithmetic progression methods the following letters may be used:

C=the cost of the item to be depreciated; D=the periodic amount of depreciation; V=the book value of the item at the end of any accounting period; t=age of the item at the end of any accounting period; n=the estimated life of the item (years); d=the rate of depreciation, in per cent; S=scrap value, trade in value, etc., at the end of its useful life; D_1=the amount of depreciation for the first period; d_n=the common difference between succeeding depreciation amounts; n_1=the number of periods over which depreciated.

Straight Line Method

For the straight line method the following formulae would then apply:

$$(G)\ D = \frac{C - S}{n}$$

$$(H)\ d = \frac{D}{C} \times 100$$

$$(I)\ V = C - Dt$$

For example, a pasteurizer which cost $1500 when new has an expected life of 12 years, and its estimated scrap value is $75. Calculate (1) the yearly depreciation (D), (2) the date of depreciation (d), and its book value (V) at the end of two years.

$$D = \frac{1500 - 75}{12} = \$95.00$$

$$d = \frac{95}{1500} \times 100 = 6.3\%$$

$$V = 1500 - (95 \times 2) = 1310$$

Arithmetic Progression Method

In the arithmetic progression method the object is to vary the amount depreciated year by year. It is based on the assumption that the greatest amount of depreciation occurs in the first year, and is decreased by a common difference each year. It is usually the practice for the accountant to fix the amount of the depreciation for the first period. The following formula is suggested for calculating the "common difference".

$$(J)\ d = \frac{2\,(D_1 n_1 + S - C)}{(n_1 - 1)\,n_1}$$

For example, a pasteurizer which cost $1500 when new is to be scrapped at the end of 12 years with a scrap value of $75.00. The depreciation for the first year is set at $200.00. What is the "common difference" (d)? What is the book value at the end of the 2nd year?

$$d = \frac{2\,(200 \times 12 + 75 - 1500)}{(12 - 1)\,12}$$

$$d = 14.77$$

The amount of the depreciation for the second year will be $200 - 14.77 = 185.23$; for the third year it will be $185.23 - 14.77 = \$170.46$, etc.

The book value at the end of the second year would be $1500 - (200.00 + 185.23) = \$1114.77$.

Depreciation Accounting

The value of proper depreciation accounting lies in (1) proper credit for income tax purposes (2) assuring the availability of sufficient cash when replacements are needed (3) determining the proper value of an asset at any given period, and (4) spreading the cost of an asset over a period which corresponds closely with its useful life. There may be some advantage in fixing depreciation at an abnormally high rate in the immediate post war period (as suggested by the Administration) if at a later date we are assured of lower tax rates and continued high incomes. I am afraid that the time when the asset has been completely depreciated will coincide with the end of the post war period of prosperity, and the accumulated assets will then have to be used to defray higher taxes resulting from no further depreciation deductions.

Much of dairy arithmetic consists of formulae which are used for obtaining

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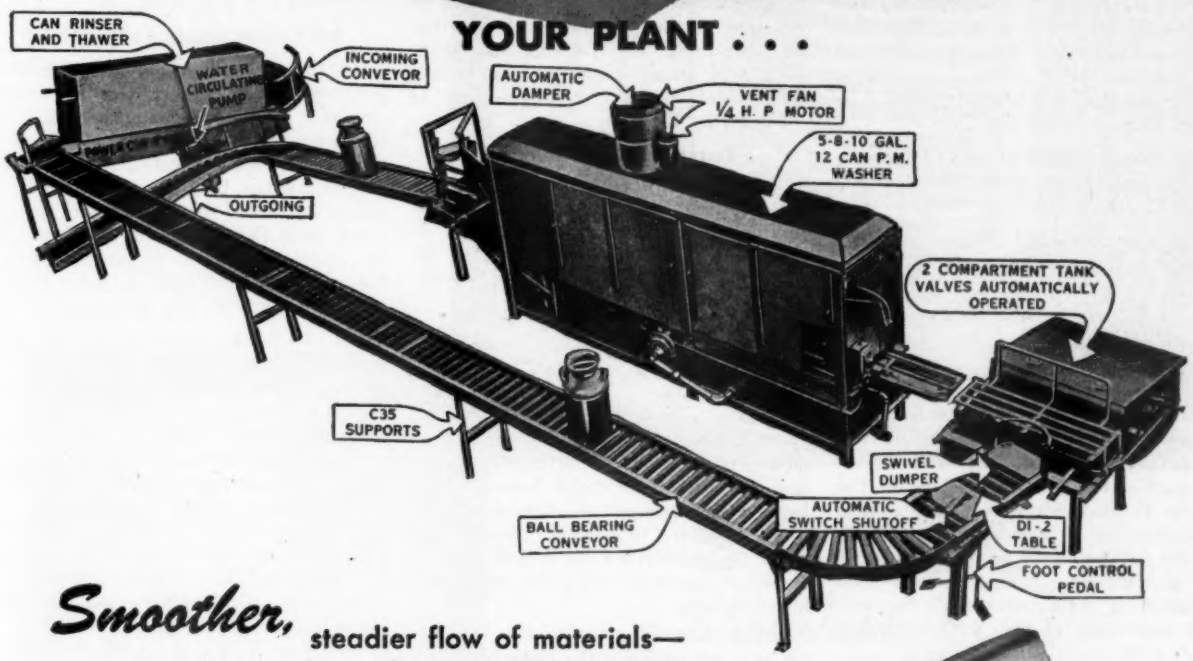

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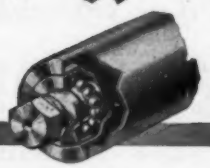

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the desired results. Formulae are short cuts in arithmetic. There are a considerable number of these, and for this reason only a select number can be presented. In general only those which result from or have a bearing on Federal regulations are included. Time will not permit an illustration for each of the formulae as was done for depreciation, but there should not be a great deal of difficulty in their application.

Short-Cut Tables

One of the most useful tables for use in dairy plant calculations is the one prepared by Moses S. Jacobson as part of a paper published in the Journal of Dairy Science, Vol 9, No. 3, p. 171. This table may be reproduced from the following formula: (K) $.4F + 7.07 =$ % SNF in milk of the indicated fat test; Where F = % fat; SNF = Solids not fat.

The casein content of milk of any normal fat content may be estimated as follows: (L) $.4F + 0.9 =$ % casein.

American (cheddar) cheese yield may be estimated by use of the formula:

$$(M)\ \frac{1.45F + 0.872}{100 - M} \times 100 = \text{cheese yield per 100 lbs. of milk of the given test.}$$

Where M = per cent moisture in cheese; F = per cent fat in milk.

Detection of Added Water

The manner of applying the feed subsidy on milk (a flat rate per 100 lbs.) has encouraged adulteration by watering on the part of the producers. One of the simpler methods for detecting this type of adulteration is by use of a lactometer and the Babcock test. A number of formulae and various procedures have been suggested. I shall present only the simplest and some of the older formulae:

$$(N)\ \frac{L + F}{4} = \text{\% SNF; Where L = lactometer reading (corrected for temperature)}$$

The percentage adulteration of a suspected sample may be estimated by making tests on a "control" (unadulterated) sample obtained from the same source. Such comparisons are then expressed on a percentage basis as follows:

$$(O)\ 100 \times \frac{\text{\% SNF in control} - \text{\% SNF in suspected}}{\text{\% SNF in control}} = \text{\% reduction in SNF}$$

$$(P)\ 100 \times \frac{\text{\% fat in control} - \text{\% fat in suspected}}{\text{\% fat in control}} = \text{\% reduction in fat}$$

(a) Watering alone will result in a reduction in the fat; (b) Watering alone will result in a corresponding reduction in SNF; (c) Skimming alone will result in a reduction in fat; (d) Skimming alone will *not* result in a reduction of SNF; (e) Watering and skimming will result in a reduction in the fat equivalent to the sum of the percentage of watering and skimming; (f) Watering and skimming will usually result in a reduction in the SNF, but not correspondingly as great as the fat.

Purchase by Lactometer

Lactometers are frequently used by those who purchase fluid skimmilk for producing non-fat dry milk solids in order to establish a basis for paying for the milk. The formula used is as follows:

$$(Q)\ \frac{L \times .2751}{\text{Sp. Gr.}} = \text{\% Solids in skimmilk}$$

Where L = lactometer reading (corrected for temperature); Sp. Gr. = specific gravity (obtained by prefixing 1.0 to the corrected lactometer reading.)

Usually a base price, as for example, 75 cents per cwt. of milk with a corrected lactometer reading of 34 is established and the prices for milks having other lactometer readings are calculated on a direct ratio for total solids content. In order to establish a table it will be necessary to determine the price per pound of total solids.

When calculating the subsidy on butter, it is required that the claim be based on production, and not on sales. Reasonable losses (over weight in packaging) are recognized. An estimate of production might be made by means of the following formula:

$$(R)\ \frac{\text{Units of sales}}{100 - L} \times 100 = \text{units produced}$$

Where L = % of estimated losses.

When making butter and to express losses emphasis is often placed on the fat test of the buttermilk, when it is much more desirable to express the fat in the buttermilk on the basis of the per cent of the fat paid for, which remains in the buttermilk. A formula for such an estimate is as follows:

$$(S)\ \frac{(C - 1.1F)\ T}{F.} = \text{\% of fat paid for which remains in buttermilk}$$

Where C = lbs. cream placed in churn; F = lbs. fat in the cream; T = Test of buttermilk; F_1 = lbs. fat paid for in the given churning.

If this method is used it will soon be discovered that the lowest testing buttermilk does not always indicate efficient operation.

Ice Cream Quota Calculations

In the ice cream industry we have problems which concern themselves with properly balanced mixes so that the maximum permissible total solids percentage is not exceeded, or that the proper balance between fat and SNF is retained. Such problems take up too much time for a paper of this kind. It is possible, however, to present formulae which may be used in order to determine quotas for any given period.

All plants have reported to the War Food Administration the solids used for civilians per month during the base period of December 1941 to November 1942 inclusive. Their present quotas are based on this period. If the composition of the ice cream has been modified since the base period, then the percentages listed cannot be applied directly. The procedure then is to determine the average weight of a gallon of frozen ice cream or to calculate the average weight per gallon for the month on the basis of the pounds of mix used and the gallons of ice cream frozen. It may also be calculated by the formula below:

$$(T)\ \frac{M}{100 + \text{\% over run}} \times 100 = I$$

Where M = weight of one gallon of mix; I = weight of one gallon of ice cream.

The gallons (quota) of ice cream which may be produced for civilians during any

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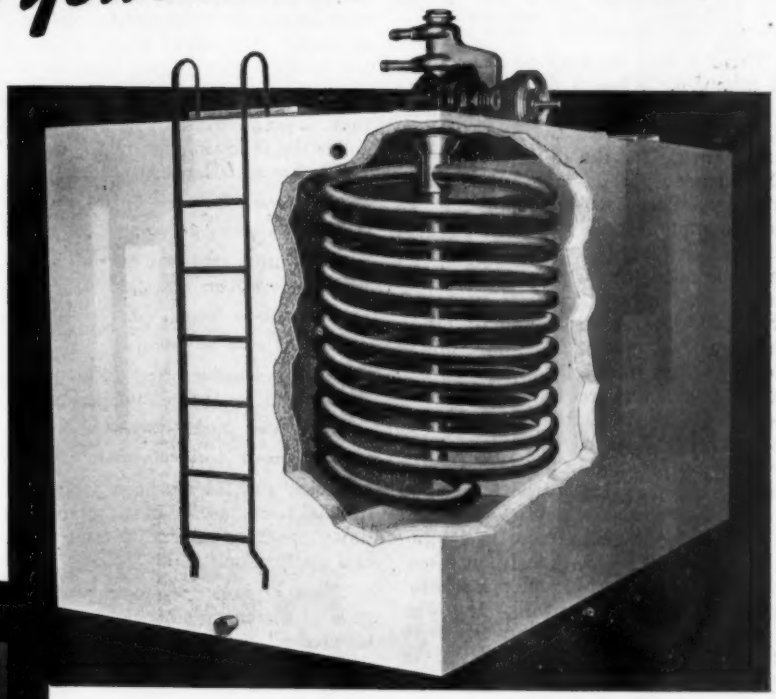

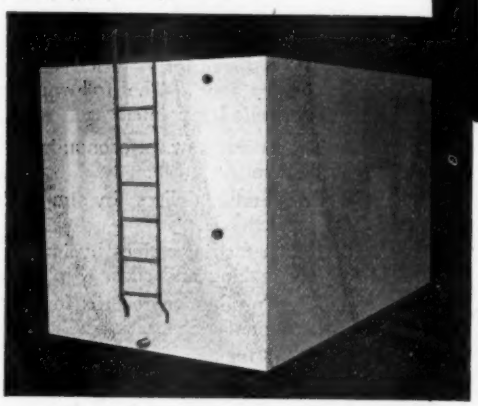

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Manufacturers of Sorensen's Retin, E-P-Buttons, and other Dairy Specialties

given month may be estimated by the following formula:

$$(U)\ \frac{\text{Lbs. milk solids used in base period} \times \text{Federal quota percentage}}{I \times \%\ \text{milk solids in mix used}} = \text{gallons of ice cream which may be produced on quota.}$$

Where I = Weight of one gallon of ice cream.

There is time for but one other group of formulae. When a dairy plant buys whole milk instead of cream, producers will shortly insist that the basis of payment provide for the differences in the SNF content per pound of fat in milk of different tests. For example, if we were to apply formula (K) to a 3 per cent milk we find a SNF of 8.27 per cent, and if applied to a 5 per cent milk we find a SNF content of 9.07 per cent. The SNF content per pound of fat in the 3 per cent milk is 2.757 lbs., but in the 5 per cent milk it is only 1.814 lbs. Unless some arrangement is made to compensate for this difference, producers will soon become dissatisfied. Froker and Hardin (Wisconsin Research Bulletin 143, February 1942) have developed a series of formulae which may be used to provide for the differences in composition. It is suggested, though not essential, that the base or initial price is for 100 lbs. of 3.5 per cent milk. If so desired the base price may be taken for the average test of the milk received. In order to determine the base price for 3.5 per cent milk the following formula may be applied:

$$(V)\ \frac{\text{Money available for payment} \times 3.5}{\text{Lbs. milk purchased} \times \text{test}} \times 100 = \text{Base price per 100 lbs. of 3.5\% milk}$$

The proposed Froker-Hardin formula where butter and non-fat dry milk solids are manufactured would be as follows for determining the price differential per 100 lbs. of milk for each .1 per cent variation from the base (3.5% or the average):

(W) .121 (Butter Price — Direct Costs) +.041 (Powder Price — Direct Costs) = Butter-Powder price differential

Direct costs should include that portion of complete costs which are directly associated with the fat and solids not fat of the milk. All expense of handling, packaging and marketing of the finished product together with a reasonable part of the general plant over head expense should be classified as direct costs in determining price differentials. In the case of butter, this would begin at the point where the butter is taken from the churn.

When cream is sold and if the skimmilk is converted into non fat dry milk solids the following formula is suggested by Froker and Hardin:

(X) .1 (Cream Direct — Price Costs) +.0275 (Powder Direct — Price Costs) = Cream Powder price differential

For butter and casein the following formula has been proposed:

(Y) .121 (Butter Direct — Price Costs) +.0412 (Casein Direct — Price Costs) = Butter-Casein price differential

The condensery price differentials are determined by the following formula:

(Z) (Condensery Price + Receiving Costs) ÷ 35 —.207 (Powder Direct — Price Costs) = Condensery price differential

Froker and Hardin have proposed additional formulae for other products, but those presented seemed to have the general application.

When a plant operator expects to engage in the manufacture of any particular product he should familiarize himself with the arithmetic associated with that product. This is especially true where close standardization is required as is the case with ice cream mixes, evaporated milk and dried whole milk.

QUALITY IMPROVEMENT PLANS

Indiana Dairy Plant Executives Meet to Discuss New Program

Approximately fifty executives and managers of butter and milk products manufacturing plants of Indiana met August 15 in Indianapolis to initiate state-wide programs for the improvement of the quality of cream and milk. The meeting was sponsored by the Butter and Milk Products Divisions of the Indiana Dairy Products Association, Inc.

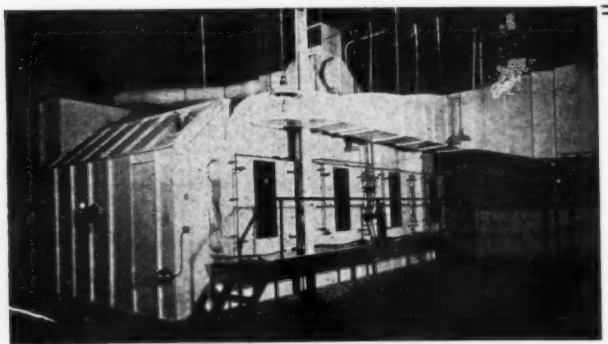
C. C. Hadley, Executive Secretary of the Association, pointed out that Indiana ranks high as one of the important dairy states of the nation. Preliminary estimates just released by the U. S. Department of Agriculture reveal that in 1944, Indiana produced 49,555,000 pounds of butter; 36,368,000 pounds of cheese; 54,297,000 pounds of condensed milk; 108,229,000 pounds of evaporated milk and 27,212,000 pounds of dry milks. A very large percentage of these manufactured products have been used directly by the armed forces and other Government agencies.

The programs for the improvement of the quality of milk and cream will be under the supervision of the Dairy Department of the Purdue University Agricultural Experiment Station and will aid the industry in maintaining post-war sales of Indiana dairy products which will benefit approximately 150,000 Indiana dairy farmers producing milk and cream.

PLAN FOR 1946

The U.S.D.A. in cooperation with the Dairy Industry Committee, have plans for "The 8-Point Dairy Program for 1946". The slogan for 1946 is "Efficiency and Quality Pay". The following are the recomended 8 points:

1. Feed every cow for economical production.
2. Save milk dollars by improving grasslands.
3. Retain feeding values by improved hay making and silos.
4. Keep production records for better herd management.
5. Breed for improved herd replacements.
6. Protect quality of milk and cream by cleanliness and cooling.
7. Reduce labor costs by improved layouts, equipment and methods.
8. Maintain herd health for quality and efficiency.



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FULL RECOVERY OF SOLIDS
Economical Operation
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with efficient entrainment separator
Designed to produce highest quality
CONCENTRATED SKIMMILK
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A superior case washer that fits into the conveyor line between the soaker washer and filler. It scrubs the case with caustic wash and rinses with clear water, producing sterile sparkling cases.

Write for Bulletin

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Butterfat Differential Changed For New York Market After 28 Years

New Distribution of Income Expected to Retard Several Years' Trend Toward Marketing Less Rich Milk

REVISIONS in the milk marketing program of the New York metropolitan area took shape when Dr. C. J. Blanford, market administrator of the area, forecast a butter differential of 5.4 cents for August milk, ending more than a quarter-century in which the differential has been figured at the flat rate of 4 cents.

The new differential is the result of an amendment to the New York marketing program that took effect August 1. The revision is designed to:

(1) Pay producers for butterfat in accordance with its actual market value.

(2) Share butterfat income among producers according to their production of butterfat.

Highly technical though the revision is, it can be counted upon to affect both producers and consumers, as follows:

(1) The result for producers will appear immediately in the form of either a larger or a smaller share in the New York pool for every one of the milkshed's 49,300 dairy farmers. Dairy farmers with milk rich in butterfat will find their share enlarged, while low-fat producers will collect proportionately less.

(2) As the new and presently higher differential is expected to encourage producers to deliver milk containing more fat, consumers reasonably can look for a gradual, but long-range, enrichment of the milk they buy. In any event, a three-year trend toward the production of less rich milk will be retarded, probably halted, and possibly turned around.

An immediate consequence of the new provision is, of course, a somewhat smaller uniform price. The estimated August price would have been $3.30 or $3.31 a hundredweight if the 4-cent differential had remained.

The new butterfat differential, foreseen now as 5.4 cents for August, will not affect total producer income in any way. The new method of figuring the rate distributes the same money in a new manner. The redistribution, if it had been applied to 1944, would have involved approximately $1,360,000.

Differential Instituted in 1912

Butterfat differentials were first applied in the New York milkshed in 1912, and the rate of 4 cents became the accepted standard rate with the payment for milk received in October 1917. The differential recognized the varying quality of milk with more or less butterfat and repaid the farmer for producing milk rich in butterfat. Producers with less than the basic quantity of butterfat, now 3.5 pounds per 100 pounds of milk, were paid less for their milk. The differential thus has acted as a premium for high-fat producers and a penalty on low-fat deliveries.

The differential is added to or deducted from the farm price for each tenth of a pound of butterfat that the milk contains over or under the basic quantity. With a differential of 4 cents a point—the industry's term for each tenth, the premium value was equivalent to 40 cents a pound of butterfat. The new rate, which is expected to vary from month to month, is equal to 54 cents a pound for August deliveries.

Total income is not affected, in spite of increased differential, because butterfat has regularly yielded more income to the pool in the war years than the differential to producers required.

Handlers Payments Will Vary

In addition to paying basic prices for whole milk according to its use, handlers are also required to pay butterfat differentials to the pool. Like the basic prices, the differentials vary according to the use of the milk. Thus, in July of this year, when producers were collecting for butterfat at 4 cents a point, handlers were paying as high as 7.3 cents a point. In fact, the lowest differential the handlers paid was 4 cents. In those circumstances, the average value was bound to exceed the fixed rate at which producers collected. As the July deliveries to the pool contained an average of 3.63 pounds of butterfat per hundred weight of milk, a butterfat premium of $325,988.72 was distributed to producers at the 4-cent rate. Handlers, however, paid the pool $415,382.40 for the butterfat they used. The difference of $89,393.68 was left in the pool and inflated the uniform price by nearly 1.4 cents a hundredweight.

Under the new system, the butterfat premiums will be paid directly to producers according to the value of the butterfat they have delivered. The pool price will cease to benefit from the substantial sums that have represented in recent years the way in which the market value of butterfat has exceeded the 4-cent rate. However, as the time required to figure the New York pool is restricted, the revised method provides that the average value of the butterfat shall be figured from its use in the preceding month. An exact mathematical average for the current month is thus rendered impossible, and the August premium of 5.4 cents means, in fact, that the total butterfat payments will run somewhat higher than what the handlers will pay. A draft of about $18,000 from the pool's income from whole milk will be required to offset the deficit. In the early months of the year, however, the method will yield comparable overages. Year-around operation of the pool is expected to balance the intake and output within a narrow margin.

The previous system, in contrast, left the pool in 1944 with a total overage of $1,357,876.50 in butterfat payments. The sum was distributed to all producers in the form of higher prices rather than to high-fat producers whose butterfat produced the revenue for the pool.

Fat Production Stimulant

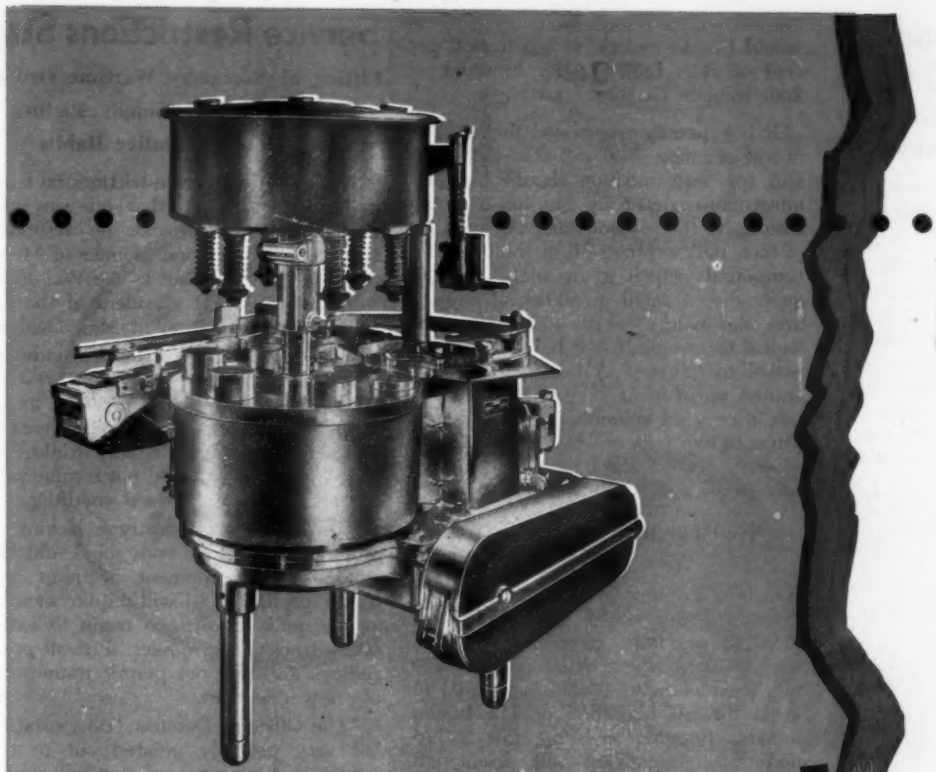
"The new butterfat provision is expected," Dr. Blanford said, "to obstruct the discernible trend toward the production of milk containing less and less butterfat. The butterfat content of pool milk has declined over the past three years, and the downward shift in butterfat has come with the rise in the price of whole milk while the premium for butterfat remained in the fixed position it held for 25 years. Emphasis has been placed on the production of a large volume of milk rather than milk rich in fat."

The adoption of a producer butterfat differential that fluctuates with the market value of butterfat is, moreover, consistent with present-day marketing practices. The regulations of Boston whose milkshed overlaps the New York production area require butterfat payments on a sliding scale, while many Middle Western markets likewise use the system.

EDUCATIONAL CONFERENCE

The Michigan Dairy Boosters have made arrangements to work with the Dairy Department of Michigan State College in promoting and publicizing the Dairy Educational Conference to be held at the College in East Lansing, Mich., November 7-8-9, 1945.

The Boosters have also considered the annual meeting planned for 1946 and the committees to take care of the business of the organization have been appointed by President Larry J. Doyle.



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SPECIALTY BRASS AUTOMATIC FILLER AND CAPPER SAVES VALUABLE MAN HOURS in maintaining production with lasting, trouble-free operation for quick handling or stepped-up demands—filling and capping all dairy drinks and specialties in any size bottle from ½ pint to 1 quart. Thirty ½ pints per minute or 960 to 1,200 quarts per hour! The 6-valve model (illustrated) is compact in design and requires only minimum space for efficient maximum production. Change-over is made quickly with almost no halt in operation. An Adaptation is available for ½ gallon bottles and paper containers at small additional cost. This machine can be equipped at any time with conveyor mechanism hook-up to washer for feed-in of empty bottles, affording a greater labor saving feature.

SPECIALTY BRASS FILLERS AND CAPPERS are available in a variety of sizes for all dairy requirements—large or small.

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Milk and Bread

Recommendations for Flour Enrichment Presented Before Special Committee of Massachusetts Legislature

(By J. H. Frandsen, Head, Department of Dairy Industry, Massachusetts State College)

I am very much interested in the legislation currently up for consideration. It is difficult for me to bring myself to believe that to compel the manufacturers of bread to use any particular kind of substance is sound legislation at this time. The research work on this matter of what substances will give best results from a nutrition point of view is still new and in the experimental stages. To hastily enact legislation before we have more definite results would, I think, be a serious mistake.

There are also data available showing that a very marked improvement could be made in the nutritive qualities of our bread if the manufacturers of flour would be required to change their process of manufacture so as to leave in many of the essential nutrients which are now milled out of the flour largely because of a desire to get a flour that is perfectly white in appearance and does not become rancid after long storage.

Prof. J. H. Frandsen

Dr. McCollum points out that perhaps 30 nutrients are milled out of the whole wheat. He also points out that it is rather misleading to apply the term "enriched" to a flour from which some 30 nutrients have been milled out and to which only 3 vitamins and iron have been added. This, in Dr. McCollum's opinion, would create a false sense of security among consumers of such bread.

Vitamin Supplements

It would seem that just now, because of the vitamin fad, when in doubt we rush to the drug store for vitamins. Many nutritionists, I believe, point out that before resorting to purchased vitamins we should use as much as possible of wholesome natural foods for a goodly share of food constituents and vitamins, and then supplement these with only such other vitamins as are needed.

Among the more desirable substances available for improving the bread supply are the non-fat solids of milk, which in normal times, and hopefully also in post-war days, will be extremely abundant and available at low cost. If bakers are left with a free hand, many of them would like to include as much as 6 per cent of skim milk powder in terms of flour used in the bread mix.

It is generally recognized that milk is one of our most vital and essential foods, and for best nutrition should be used much more extensively than has been the case up to the present time. As a matter of fact, milk contains all of the chemical compounds which go to make an adequate diet if small quantities of copper, iron, and manganese are added. It seems logical to assume that if bakers are compelled to follow a certain although too limited enrichment program, it will result in reduced amounts of essential constituents like milk solids and other constituents that research now in progress may prove fully as beneficial.

Need for Dairy Consumption

Now as one who devoutly believes that dairy farming is very definitely tied up with better health and a well-balanced, prosperous, permanent agriculture, I would like to point out that our milk production in 1945 is estimated to be in the neighborhood of 119 billion pounds. Roughly speaking, this is 1/6 more than the annual milk production before the war which means that the civilian buying of milk, butter, cheese, ice cream, and milk solids will have to increase very greatly over pre-war days if dairy incomes are to stay satisfactorily high. In other words home markets for dairy products must be developed.

Thus, one of our problems in reconversion or post-war days is the maintenance of a high domestic consumption of milk and of all of the essential products made from it, so that we may improve the health of our people and provide for a better balanced and more prosperous agriculture and industry. Certainly, no legislation that will hamper these objectives should be encouraged at this time.

R. W. BOECKMAN PROMOTED

Named Vice-President In Charge of Plants by Thatcher Mfg. Co.

Raymond W. Boeckman has been elected vice-president in charge of plant operations by the Thatcher Manufacturing Company Board of Directors, according to a recent announcement by Franklin B. Pollock, president.

A native of Austin, Texas, Mr. Boeckman is a graduate mechanical engineer of the University of Texas.

As vice-president, Mr. Boeckman will have charge of operations for all Thatcher factories in Elmira, Olean, N. Y., and Streator, Ill., with his headquarters at the company's home office in Elmira.

Service Restrictions Stay

Lifting of Necessary Wartime Orders Benefits Civilian Supply Picture But Not Distributive Habits

Lifting of wartime restrictions on fresh milk does not mean that pre-war milk distribution services can be resumed, according to Raymond Skinner of Memphis, Tenn., consultant to the War Food Administration and president of the International Association of Milk Dealers.

"While the milk distributing industry welcomes the removal of wartime restrictions which will enable civilians to be supplied with more milk, light cream, buttermilk and chocolate dairy drinks," he said, "the industry could not resume pre-war services under present conditions.

"The fluid milk industry is lacking in much-needed special-body retail vehicles, trucks, tires, equipment, supplies and motor mechanics. It will require months for the milk industry to begin to catch up on trucks and supplies. Present price ceilings also will not permit resumption of pre-war services.

"The Office of Defense Transportation has very properly pointed out to the public that removal of restrictions by the government effective November 1, on delivery services does not mean that these pre-war services can be resumed.

Heavy Post-war Expenditure

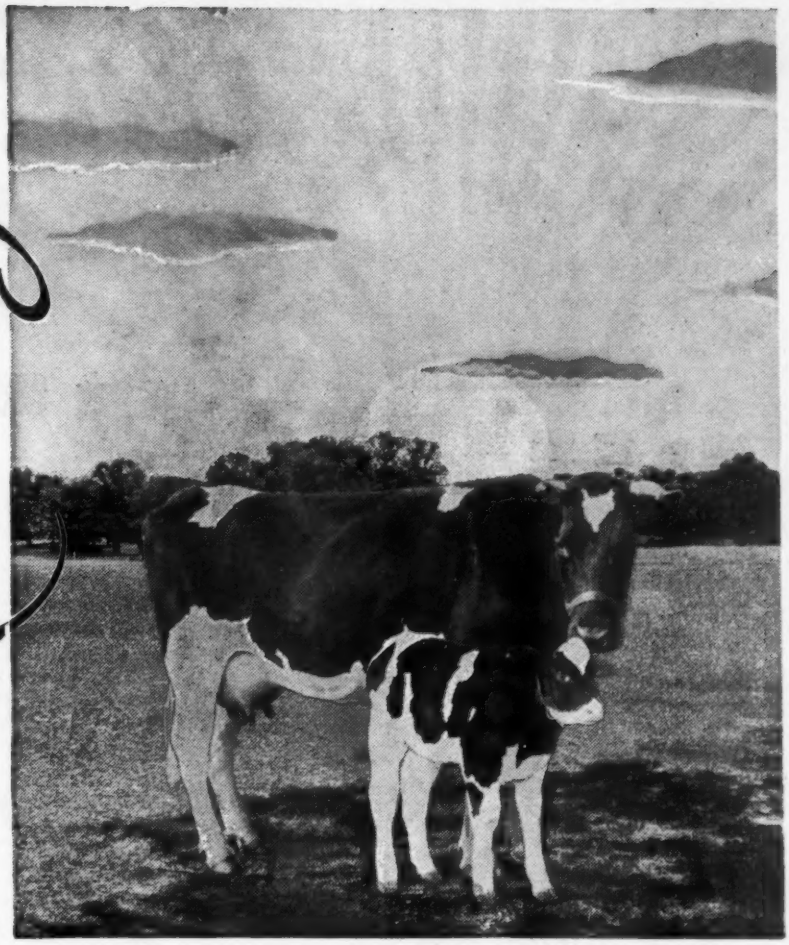
"Post-war expenditures of $360,000,000 by milk and dairy products companies will be necessary for new equipment and parts to replace those already worn out before expansion can be considered.

"Dairy farmers and milk distributors have built up a wonderful record of war service. Milk is and has been the No. 1 food of both soldiers and civilians. In addition to supplying the huge quantities of fresh milk needed for the armed forces, distribution to civilians was kept up under the most trying of war conditions.

"Milk production and distribution have increased to the highest levels in our history. Indications are that 1945 distribution and consumption of fresh milk will top the previous record of more than 52 billion quarts a year.

"The action of Secretary of Agriculture Anderson in removing the quotas will provide civilians with milk in its most nutritious form. It will make possible continuation of the high wartime consumption of milk. The dairy industry is proud of the high praise given war production and distribution of milk and dairy products by Government officials. Milk was the only major food industry to maintain a system of distribution without coupon rationing."

The Dawn of a New Day



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Raise your own herd replacements. Through culling, proper breeding and feeding an average herd can be built into high producers in three generations. Farm school experiments have proved this fact.

For more than twenty-five years successful dairymen in every part of the country have been feeding Mutual Dairyade and raising fine herd replacements. They have proved by experience that they can start baby calves on Mutual Dairyade. They sell most of their milk—and get bigger milk checks. Manufactured by the Mutual Products Company, Minneapolis, Minnesota. Ask your milk company for a pail today!

Mutual Dairyade is distributed exclusively by milk companies throughout the nation as a service to patrons.

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First time ever offered!

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STANDARD CAP AND

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NOW see how colors and side printing "*SNAP-UP*" your bottles!

Standard WeldedWire Hood Seals

2 YOUR NAME ON THE *SIDES!*

WITH this announcement Standard Cap and Seal Corporation brings you not one but *two* great new features available only in Standard Hood Seals.

First, it offers a brand new way to "dress up" your bottles by using combinations of beautiful, rich colors . . . as many as 3 different colors on each cap.

Second, you get *full* name position everywhere on the cap, *both top and sides.* Especially if your bottles have no other identification, you will want this prominent display for your name . . . a "traveling" advertisement that goes wherever your bottles go.

The introduction of these new features is another example of the forward-looking policies which guide both our products and services. As a result, Standard WeldedWire Hood Seals now do more than act as the final important safeguard for your milk; they also perform valuable services in putting the spotlight on your name in a more attractive way than ever.

Get in touch with us today for information about the new multi-color, side-printed Standard Hood Seals. A representative will call at your convenience.

Whose milk is this?

We'd call this a "mystery" bottle. From the side (and that's where most people look at it) there's no telling whose milk is inside. If your bottles are guilty of hiding your name, you can now do something about it—and at little cost.

No doubts here

You can see the difference at a glance. The new multi-color, side-printed Standard Hood Seals give your name an out-in-front position for all to see. No other identification from the side is necessary!

SEAL CORPORATION
CHICAGO 14, ILLINOIS

Dairying in the Central Americas

Program Started to Imorove Breeding Methods For Higher Production—The Agricultural School Trains Students in Management and Technology

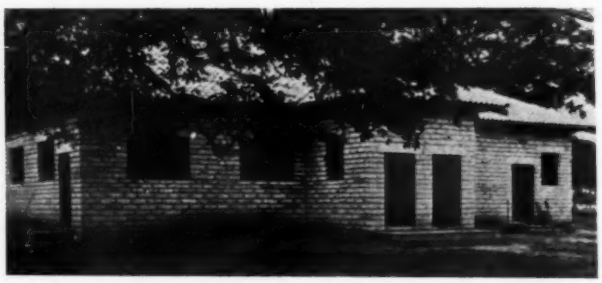
From material prepared exclusively for the "Review" by the Middle America Information Bureau conducted by the United Fruit Company, the following article is presented which gives an insight to the possibilities for a greatly expanded dairy industry in Central American countries and to the work that has already been started in this direction.

It emphasizes too, the importance of a continuing and expanding interchange of goods produced in this country and in Central America for the maintenance of a sound economy and the broadening of a good neighbor policy.

THE DAIRY INDUSTRY in the neighboring nations in Middle America sees a bright future for the production of more milk, butter and cheese.

To understand the possibilities for the dairy industry in the Middle American republics of Mexico, Guatemala, El Salvador, Nicaragua, Honduras, Panama, Haiti, Cuba, and the Dominican Republic, it is necessary to understand the revolution that has occurred in their agricultural economy. Before the war these nations raised for export chiefly such familiar crops as bananas, sugar, coffee and cocoa.

Under the impetus of war and demands from this country the production of other raw materials, especially adapted to the favorable climatic and soil conditions peculiar to the Middle Americas, was greatly stimulated. Among the new materials now being produced there may be mentioned abaca for Manila hemp, natural rubber, cinchona bark for quinine, rotenone for insecticides, castor oil and teakwood.



Campus headquarters for milk and milk products—Built by the United Fruit Company for the School of Pan American Agriculture, this dairy house contains a modern refrigerating unit, packing and ice plants, pasteurizers, skimming plant, and a butter and cheese factory. The handling of milk and milk products as part of the students' three year course.

Interchange of Goods Essential

The future of Middle America's economy and with it, the future of Middle America's growing dairy industry, rests in whether or not the United States will continue to be Middle America's customer for these raw materials when peace comes. For the crops which Middle America sells to the United States mean to her the cash with which she can buy from the United States the machinery and manufactured goods for developing this all-important dairy industry at home.

Cattle are plentiful in the Middle Americas. Mexico leads with some 2,000,000 head of beef and dairy cattle, the greatest proportion in the central regions around Mexico City. The Dominican Republic comes next. There, 3,000,000 acres of pasturage support over 900,000 head of cattle and interest is steadily growing. Nicaragua has almost 750,000 cattle, a ratio of more than one head for each of two people. In El Salvador, stockraising is an important adjunct to agriculture and occurs in almost every section of the country with the cattle population estimated at over 680,000 head. In Guatemala the great majority of the population is engaged in either farming or stockraising and the cattle industry is being systematically developed. Dairy farming is particularly encouraged and the production of milk, butter and cheese is increasing. Guatemala has 630,000 head of cattle. Stockraising is a major industry in Panama. Some 500,000 head of cattle, mostly in the hands of small owners, are permitted to graze on public lands. Dairy farms valued at $9,000,000 are located near the large cities and in the interior. Honduras, with land remarkably well suited to cattle pasturage, supports over 500,000 head, and Costa Rica, with 300,000 head, mostly in the Central highland areas, is making noteworthy progress in the development of purebred beef and dairy cattle.

The calf stable, with some of the grade Jersey calves at the School of Pan American Agriculture in Honduras.

Breeding and Management

There are two problems that must be solved before the industry can really come into its own. The first is the quality of the stock. Cattle were first introduced in the New World from the Old. Their development over the years has been more or less hit or miss and while over the centuries since colonial times, they have acquired a high adaptability to the rigors of the tropical climate they are for the most part not very specialized for production. It has only recently been discovered how great a part climate plays in the productivity of cattle,—that it sinks in proportion as the temperature rises.

The breeds prevalent throughout Middle America today are the Brahman or Zebu types and the native Criollo. Both these breeds have become adapted to the warm climate. They have developed light, short haired coats which throw off a much greater proportion of the sun's heat and facilitate the elimination of heat. They have pigmented skins which impede the penetration of the sun's rays and help prevent skin burns.

CLOCKLIKE
through all receiving room operations.

In this day when maximum efficiency and steady production are necessary, milk receiving plants are greatly stepping-up output and at the same time conserving water, fuel and detergents for cleansing and sterilizing with MIKRO-SAN ACID CLEANER and L-P coordinated equipment. Each unit becomes a part of an L-P installation, so designed and engineered as to move cans smoothly with timed, clock-like precision from the receiving of full cans to the return of empties.

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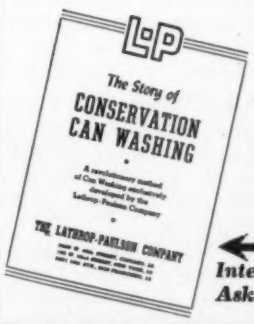

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Mission Dairy Orange is made from the real juice of California Valencias, scientifically processed, perfectly blended. That's why it makes a superb orangeade — an orangeade with the delicious tang of golden ripe oranges. Do as hundreds of dairymen do — use Mission Dairy Orange. A sample is yours for the asking.

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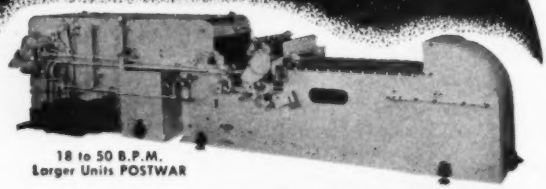
CLEAN, STERILE BOTTLES improve your PRODUCTS



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✓ SIMPLICITY: Compact mechanism, without unnecessary mechanized details, piping, gears, springs, etc.

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You Can DEPEND on a "STURDY-BILT" SOAKER-TYPE BOTTLE WASHER

In general they are well adjusted to survive the climate but they don't give enough milk. The purebred strains of European cattle, specialized for milk production, cannot, on the other hand, withstand the high temperatures that prevail in the American tropics, Middle America's dairy problem number one then, is to improve the prevailing stock through cross breeding. Experiments in Jamaica have already shown that when a relatively-low-producing but highly adaptable type of Zebu was crossed with European cattle, the offspring were generally much better milk producers than their dams and yet managed to withstand the heat.

Problem number two is management. By United States' standards, cattle management in Middle America is very poor indeed. Milking once a day is common practice; cows are permitted to nurse their calves until the age of weaning and are put to pasture the year round without any supplementary feeding. Furthermore cattle in most sections of Middle America serve for work, meat and milk and are consequently not very efficient at any. The citizen farmer of Middle America has not yet learned efficient methods; first, because he has not had the means or the tools and second, because he has not had the schools.

Educational Program Launched

Schools too are coming into being and will do much to supply the "know how" that can make dairy farming pay. One such school is already in operation and is well worthy of mention. Near Tegucigalpa, the capital of Honduras, there was formerly opened last year Escuela Agicola Panamericana—the School of Pan American Agriculture, for promising young farmers from all over Middle America. Authorized by the government of Honduras, the physical plant of the school was built with an original endowment of $750,000 provided by the United Fruit Company. The company has since increased the endowment and assured the permanent maintenance of the school.

Capacity enrollment is 140 students. Tuition is absolutely free and board, books, clothing, laboratory equipment, medical services and all other necessary goods are supplied entirely without cost. Courses cover three years of intensive study with a fourth year of specialization for those showing marked proficiency. The curriculum is very carefully planned to develop native leadership not only in independent farming but in extension service for the community. Courses cover almost every phase of modern farming with excellent facilities for training in new scientific dairying and livestock husbandry. The student is taught land survey, soil analysis, road building, irrigation and drainage systems, physiology and hygiene, with special emphasis on the more common tropical diseases. Each student spends four hours of every week day at practical field work and four hours at study on agricultural subjects.

The faculty of the school is headed by Dr. Wilson Popence, internationally known authority on tropical agriculture, and includes a cosmopolitan group of specialists in all fields of agriculture. E. A. Rivera, a native Porto Rican, formally head of the livestock and dairying departments of the Venezuelan Government, heads the livestock department, which includes the dairy animals and breeding.

BORDEN EXPANDS IN FLORIDA

Royal Palm, Fla.—Acquisition of the business and assets of three affiliated Florida dairy products concerns by the Borden Company, was announced recently by W. J. Barritt, Jr., chairman of the company's Florida division. The concerns acquired from J. C. Pereno interests are:

Royal Palm Dairy, Inc., and Royal Palm Creamery, Inc., 32 North West 17th Ave., Miami; Lee County Creamery Company, Fort Myers, distributors of milk and ice cream; Lakeland Creamery Company, Inc.

Wartime Practices Increase Efficiency

Trends in Loads and Delivery Costs for Labor in Milk Distribution in Boston and Portland

George F. Dow, Agricultural Economist of the Maine Agricultural Experiment Station, recently published a study which showed that wartime practices have resulted in a marked increase in the efficiency of milk distribution. This study is based on data for October 1944 as compared with October 1941, including distributors who handle 90 per cent of the fluid milk sales in Portland, and two-thirds of the sales in Boston.

Every-other-day delivery and other wartime practices, along with an increase in milk consumption, have increased the volume of retail deliveries per man by 34 per cent in both Boston and Portland. On wholesale routes, the labor efficiency was increased 4 per cent at Boston and 35 per cent at Portland. There were also some savings made in motor truck costs as a result of every-other-day delivery and the elimination of callbacks and special deliveries.

This increase in the efficiency of the use of delivery labor was nearly sufficient to offset the substantial increase in wage rates paid deliverymen. This was important in view of the fact that wage rates paid retail route drivers increased 38 per cent at Boston and 44 per cent at Portland. The result was a net increase in delivery labor costs, per point of product handled, of only 4 per cent for the retail routes at Boston and 7 per cent at Portland. For wholesale routes, the net increase in delivery labor costs was only 11 per cent at Boston and 1 per cent at Portland.

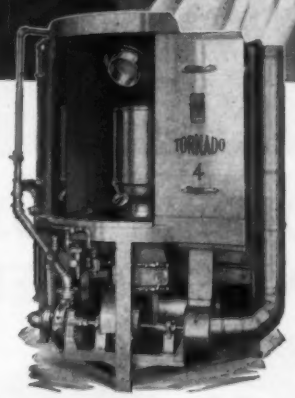
Wage rates presumably will not decrease appreciably, at least for some time, even though the war has ended. Consequently if there is a return to daily delivery and other prewar practices, resulting in labor efficiency and size of loads as low as in October 1941, there will be an increase in delivery costs. The extent to which delivery costs would increase also would depend to some extent upon the trend in per capita consumption. However, the increase in labor costs on retail routes, under existing wage rates, would amount to 0.89 cent per quart of milk in Boston and 0.74 cent in Portland if size of loads and labor efficiency should decrease to prewar levels. Motor truck costs on retail routes also would be increased, resulting in an additional cost of 0.2 cent per quart of milk. The combined effect on labor and motor truck costs would be an increase of at least one cent per quart of milk.

Favor Every-Other-Day Delivery

Many milk distributors, especially in the larger markets, are in favor of continuing the practice of every-other-day delivery and some of the other more practical wartime procedures. Consumers in general have accepted readily the every-other-day delivery of milk, and presumably will be willing to continue this practice if they are assured of saving at least one cent per quart. Farmers also have an interest in efficient distribution because of its importance in stimulating increased milk consumption and in maintaining satisfactory milk prices. In the next few years, new and improved substitute dairy products from the Midwest may furnish additional competition to Northeastern fluid milk and cream. The fluid milk industry also faces the postwar problem of absorbing subsidy payments on milk which have amounted to about one cent per quart during the summer and nearly two cents per quart during the winter. Because of these factors it is important for the fluid milk industry of the Northeast to make and continue in effect all practical economies in the production and distribution of milk.

More details concerning size of loads and wage rates are given in the attached tables, which have been summarized

Photo by Harold M. Lambert.



The PURITY Tornado 4-can Rotary with the famous 2-stage movement and closed-mouth sterilizing process. Built to endure.

Okay!

MILK'S okay," evidently thinks this little maid. Then the can it came in—and the washer that sterilized the can—must have been okay, too!

The best test of a really clean can is the odor the morning after it's washed. Yet PURITY washing methods are so intensively thorough — the bacteria cooked out under actual live-steam pressure — that a PURITY-washed can still smells — and tests — sweet the following day.

Higher priorities now available.
Write for the full story.

OAKES & BURGER CO., INC.
Milk Handling Machinery and Supplies
Cattaraugus, N.Y. - Youngstown, O., U.S.A.
EST. 1873 - MORE THAN SEVENTY YEARS OF HONEST EQUIPMENT

Purity

WASH CAREFULLY DRY THOROUGHLY

After you have used your SOLAR Milk Cans, wash them carefully and dry them thoroughly. Keep covers off of cans in storage. Extra care results in extra wear . . . and lower cost to you in the long run.

SOLAR-STURGES MFG. CO.

MELROSE PARK, ILLINOIS

NEW SOLDERING FLUX FOR STAINLESS STEEL

No. 5 Tri-Flux "TRIPLE DUTY FLUX"

CLEANS ★ REMOVES DIRT ★ FLUXES

This amazing new flux can be applied directly to a wet, dry, or oily stainless steel surface without pre-cleaning with acid. Simply dab on with a brush; no other work or preparation needed. Won't run off vertical surfaces. Non-injurious to the metal. Tri-Flux is fast, thorough, and economical — a valuable time saver because it does three jobs in one.

One of the largest manufacturers of dairy machinery writes: "The two sample bottles of No. 5 Tri-Flux for stainless steel and monel metal only are the best we have had for fluxing stainless steel to date. The solder flows freely and the black discoloration left from regular acid is eliminated, leaving a cleaner looking job. Our purchase order for a supply of this is being forwarded."

Send for free trial sample and you'll never again be without Tri-Flux No. 5.

Manufactured only by

THE WOLFE-KOTE CO.

SHEBOYGAN WISCONSIN

from Bulletin 437, published by the Maine Agricultural Experiment Station.

Retail Route Summary of Size of Loads and Delivery Costs for Labor for 8 Distributors in Boston and 4 Distributors in Portland, October, 1944, and October, 1941

Item	Boston Oct. 1944	Boston Oct. 1941	Boston % change	Portland Oct. 1944	Portland Oct. 1941	Portland % change
Number of routes	857	956	—10	68	65	+ 5
Qts. per route daily:						
Milk	426.3	293.8	+45	442.5	292.0	+52
Cream	12.7	11.7	+ 9	5.2	7.9	—34
Number of container units per route daily:*						
Milk	432.9	303.8	+42	454.5	326.2	+39
Chocolate milk	3.5	6.6	—47	10.5	9.0	+17
Cream	32.1	28.2	+14	15.3	21.4	—29
Other products	16.0	12.2	+31	10.0	10.5	— 5
Total units	484.5	350.8	+38	490.3	367.1	+34
Total points‡	472.6	329.1	+43	456.6	337.4	+35
Per cent of total points as:						
Milk	89	88	xx	93	90	xx
Chocolate milk	1	1	xx	2	2	xx
Cream	7	8	xx	3	5	xx
Other products	3	3	xx	2	3	xx
Total	100	100	xx	100	100	xx
Per cent of total points sold wholesale‡	2	6	xx	7	8	xx
Number of men used per route	1.33	1.24	+ 7	1.27	1.26	+ 1
Number of points delivered daily per man‡	355	265	+34	360	268	+34
Weekly earnings per deliveryman†	$66.02	$47.75	+38	$54.11	$37.62	+44
Labor cost per route daily	12.54	8.46	+48	9.82	6.77	+45
Labor cost per 100 points delivered‡	2.65	2.57	+ 3	2.15	2.01	+ 7

*Each container or package equals one unit, except for bulk sales in cans in which one quart equals one unit

‡One point for each container unit for retail customers and one-half point for wholesale customers with the exception of one-fourth point per quart for bulk sales.

†Includes all men who went out on the route such as the regular driver, helper, foreman, and relief driver.

Wholesale Route Summary of Size of Loads and Delivery Costs for Labor for 8 Distributors in Boston and 4 Distributors in Portland, October, 1944, and October, 1941

Item	Boston Oct. 1944	Boston Oct. 1941	Boston % change	Portland Oct. 1944	Portland Oct. 1941	Portland % change
Number of routes	246	196	+26	18	14	+29
Qts. per route daily*						
Milk	1,072	1,094	— 2	966	674	+43
Cream	115	163	—29	60	83	—28
Number of container units per route daily:‡						
Milk	1,700	1,487	+14	1,477	1,095	+35
Chocolate milk	26	62	—58	76	89	—15
Cream	179	223	—20	81	117	—31
Other products	34	56	—39	41	93	—56
Total units	1,939	1,828	+ 6	1,675	1,394	+20
Total points†	1,331	1,250	+ 6	1,071	885	+21
Per cent of total points as:						
Milk	85	79	xx	87	77	xx
Chocolate milk	1	2	xx	3	.5	xx
Cream	12	15	xx	7	12	xx
Other products	2	4	xx	3	6	xx
Total	100	100	xx	100	100	xx
Number of men used per route	1.57	1.54	+ 2	1.34	1.50	—11
Number of points delivered daily per man‡†	848	812	+ 4	799	590	+35
Weekly earnings per deliveryman	$47.77	$41.06	+16	$43.84	$31.77	+38
Labor cost per route daily*	10.71	9.03	+19	8.39	6.81	+23
Labor cost per 100 points delivered†	.80	.72	+11	.78	.77	+ 1

*Daily volume is computed on the basis of seven days per week, although Sunday deliveries on wholesale routes in October, 1944, were made on the previous Saturday, eliminating Sunday delivery.

‡Each container or package equals one unit, except for bulk sales in cans in which one quart equals one unit.

†One point was allowed for each quart container of milk, skim milk, or buttermilk, for each pint or one-half pint of cream, for each pound of butter or dozen of eggs, and for each pound or package of cheese; one-half point for each pint, one-third quart, or one-half pint of product, except cream; 1.5 points per quart of cream; 0.6 point per quart of bulk cream; and 0.4 point per quart of bulk milk, skim milk, or buttermilk.

ACQUIRES PASTEURIZING PLANT

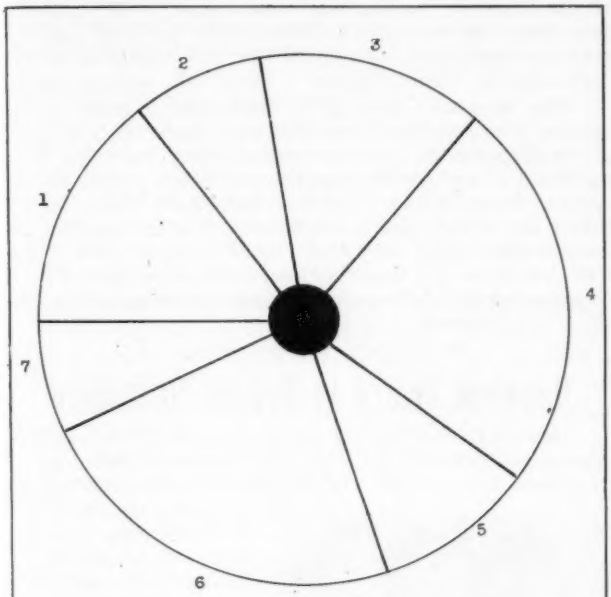
Willmar, Minn.—Lawrence Krohn has resigned his position as manager of the Kandiyohi Cooperative Creamery and has purchased a milk plant at Breckenridge. He will also service Wahpeton, N. D., having the only pasteurizing plant in those towns.

Dairy Advertising Survey

Specific Appeals Enumerated as Being Most Resultful—Pie Chart Aids in Interpreting Appeal for Milk

By F. P. KENDALL
Vice-President of National Research Bureau, Inc.

THOUGH technical dairymen will not agree, all too often the public believes that "milk is milk". Perhaps milk is most often preferentially judged by the depth of its cream line. There is so little that is distinctive about milk. It comes from a common source and is standardized in its constituent qualities. This challenges the ingenuity of the best advertising copywriters in establishing preferential recognition for certain brands.



THE WHEEL OF ADVERTISED APPEALS among DAIRIES ... showing nine month average (July, 1944 thru April, 1945)

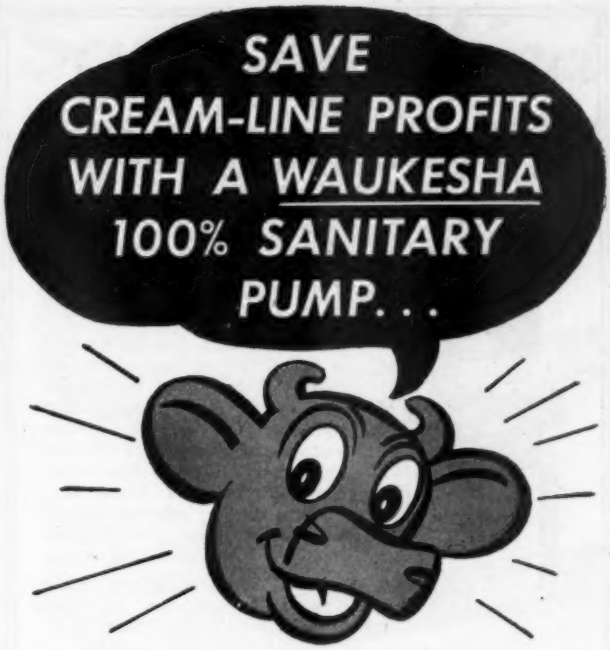
How Dairies Spent Their Advertising Dollar

Analysis based upon monthly analysis of more than 250 advertisements of milk.

1.	Child Appeal	15%
2.	Freshness, Taste	8
3.	Health	14.
4.	Institutional	23
5.	Nutrition	10
6.	Quality	23
7.	Miscellaneous	7
		100%

Unquestionably, the public reacts to the magnetic distinctiveness of that advertising appeal which, in a sense, becomes an extraneous but hypnotic component of favor for the milk itself. A great group of rollicking children, done in good line treatment, catching them in all their laughable pranks and antics, may be the fresh urge to bring favored attention to a brand name such as to encourage specific buying request for it.

Dairies throughout the nation are spending considerable sums in fetching art and copy to give their newspaper advertising superior attraction. Each month, a galaxy of enticing new handlings of the old appeals appear. They are effective within their localized range. But they are not used elsewhere



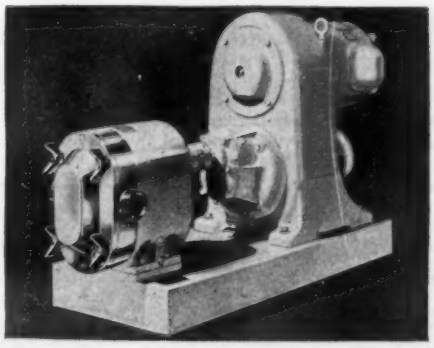
Waukesha's non-agitating, non-aerating action puts more *butterfat* into your cream line — wastes less in the skim line. Result — cream-line PROFITS instead of skim line *losses!*

Today, Waukesha 100% Sanitary Milk Pumps are increasing profits and operating efficiency for hundreds of dairies, everywhere. Precision engineered for long, hard service, "Waukesha's" positive, slow-speed, rotary action avoids all churning, agitating, and battering up of butterfat.

Increased milk pumping efficiency is urgently needed, and "WAUKESHA" can help you improve your production. Your Jobber can inform you about Waukesha 100% Sanitary Pumps — or write direct for catalog and prices.

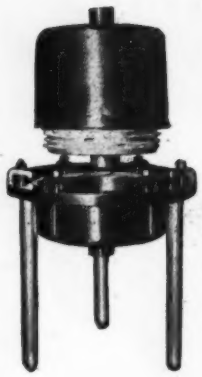
ARMY (E) NAVY

WAUKESHA FOUNDRY COMPANY
Waukesha, Wisconsin



Waukesha 100% SANITARY PUMP
DEPENDABLE PRODUCT OF A DEPENDABLE MANUFACTURER

STAMSVIK DUPLEX MODELS



Do you know that capacities from 24,000 lbs. to as high as 120,000 lbs. are available in STAMSVIK DUPLEX MODELS without change of filter disks.

Such capacities can be secured in only 3 feet of floor space, and maximum height of the largest units is only 3 feet. This permits installation in any convenient location; even an out of the way corner, in view of the small floor space required. Installation is very simple; effected simply by breaking into your regular pipe lines and connecting up.

Use only Stamsvik Filter Cloths to assure best results; identified by our trade-marked label.

Stamsvik Manufacturing Corp.
1247 Reedsdale Street, N. S.
PITTSBURGH 12, PA.

TRADE MARK
REG U.S. PAT. OFF

CLASSIFIED ADVERTISING
in the Review
BRINGS RESULTS

IF You have any used equipment taking up space
You need a good man for the plant or laboratory
You want a better job or need employment
You need or have any special service to perform

Insert a Classified Ad in the *Review*

RATES:
"Position Wanted", 50c. Limit of 50 words. All other advertisements 5c a word ($1.00 minimum). Keyed ads care of this publication, 15c extra. All payments strictly in advance.

American Milk Review
173 Chambers St., New York 7, N. Y.

Gentlemen: Please insert the following Classified. I am enclosing $.....

.....

.....

.....

Name .....

Address.....Key Number Yes ☐ No ☐

Detroit Public Library

to gain enlarged equivalent values from the idea because there has not existed a fact finding means or instrument to watch, study and relay such treatments. That is now the National Research Bureau's business . . . and has been for sometime.

Eighty merchandising, advertising, industrial, technical, business management and marketing services are produced, among which is the monthly "Advertising Trends Among Dairies". The best monthly newspaper advertising on milk is regularly gathered from over 250 cities. Our skilled analysts screen out the best advertisements. These are planographed in full detail and distributed to our many dairy clients. Likewise, we study all appeals used in the advertisements gathered and rate them in relation to total appeal mentions. We thereby throw a regular monthly appeal index which permits the advertising manager to plot the moving of each appeal trend.

Appearing for the first time as a trade contribution, our research staff has produced a composite appeal-weight average of these studies, covering the nine month period between July, 1944 and April, 1945. This average has been reduced to a pie chart which I have dubbed "The Wheel of Advertised Appeals Among Dairies". These data appear herein.

The attendant pie-chart is susceptible of much useful detailed interpretation by the individual dairy. It is actually a specific primer in dairy advertising appeal for milk. It is significant to see that the miscellaneous factor, outside the six appeals shown, is only seven per cent. Since it can be assumed that if the appeals enumerated were not resultful, so many dairies would not be so closely centered upon them; thus these data give the advertising manager an assured basis of appeal weight and measurement for the design of his own effective advertising.

Heroism Award to Driver-Salesmen

Howard R. Rudolph and Joseph J. Ahern, Jr., two driver-salesmen of Supplee-Wills-Jones Milk Company, Philadelphia, on August 9 were given The Supplee Award, established by the company in 1943 in recognition of extreme acts of heroism of its employees. Only two awards were made previously by the committee made up of a member of the AFFL drivers' union, the Philadelphia Police Department, Pasteur Award winner and a Supplee executive. A $100 War Bond went with each award.

(Left to right) Howard R. Rudolph who rescued two children at a fire, First-Lieut. Morris Pearson of the 82nd Airborne Infantry, and Joseph J. Ahern, Jr., who captured an armed purse-snatcher.

Ahern subdued a purse-snatcher after an eight-block chase, and Rudolph rescued two children in a fire on his milk route. Ahern works out of Supplee's 47th Street Philadelphia plant, and Rudolph from its Frankford Branch.

Representatives of the city and state governments, police and fire departments, civic, industrial and labor groups saw the presentations made by First Lieut. Morris Pearson, wounded veteran of the 82d Airborne Infantry invasions of Normandy and Holland, at a luncheon in a Philadelphia hotel.

Lieut. Pearson praised the milkmen of America for their daily acts of heroism. Overseas, he said, fighting men act under orders, but the milkman goes into danger without orders, just to help his fellow man.

Good Plant Housekeeping

Benefits and Economies to Be Derived Through Proper Attention to Sanitation and Orderliness

(By G. M. Trout, Department of Dairy Husbandry Michigan State College)

Prepared for the 1945 Dairy Technology Conference sponsored by the Department of Dairy Technology, Ohio State University, the following paper by Dr. G. M. Trout of Michigan State College directs attention of creamery operators to the importance of good housekeeping in the plant and points out how aims to this end in a practical manner may be achieved.

Dr. Trout also mentions some of the direct benefits to be obtained from a good housekeeping program consistly followed in dairy product plants, worthwhile to all buttermakers, plant superintendents and other executives.

* * *

GOOD PLANT HOUSEKEEPING is that condition throughout a plant which reflects utmost cleanliness, perfect orderliness and pride of workmanship of the highest order. Unfortunately many plant operators have not had the vision of good plant housekeeping although the general sanitation of the plant might be above reproach. Those plant operators are failing to enjoy the benefits and economies which accompany good housekeeping.

What Is the Value of Good Dairy Plant Housekeeping?

This question was asked of five trained dairymen representing various branches of the industry. The responses in brief were as follows:

1. *Executive:* "Sanitation; appearance; pride in work; and advertising value."

2. *Plant Manager:* "Cleanliness; safety of product; pride; advertising value."

3. *Plant Superintendent:* "Best virtue a creameryman can have; become conscious of other operations; if orderly and tidy will think of product turned out like the room he is keeping"; "puts own personality into product;" "has no end of public appeal."

4. *Department Foreman:* "A safety factor on wet, slippery floors; appearance; doubt if it has any effect on bacteria count—can have excellent product with poor housekeeping."

5. *Fieldman:* "What's the value of cleanliness and sanitation?"; "neatness reflects dress and personal habits of workmen"; "conscious of details—washing, repairs, leaky steam and water valves, rust spots, dirty corners, hiding places for pests—rats, mice, roaches, flies."

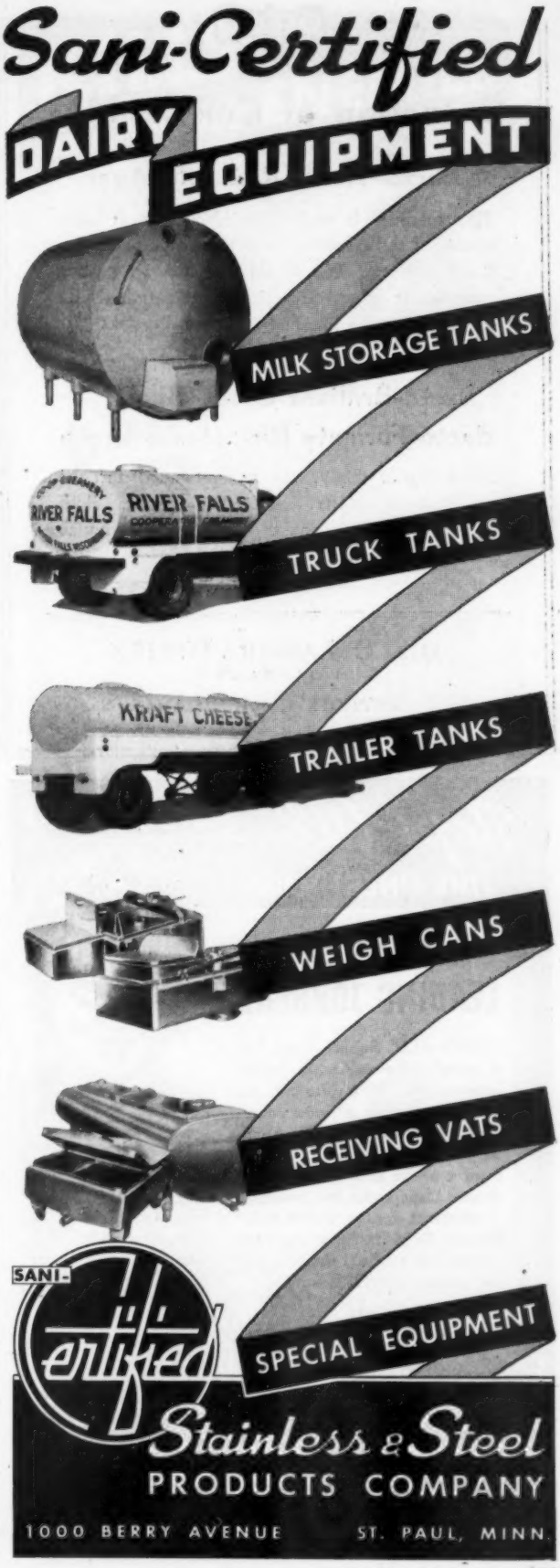
Apparently, therefore, dairymen vary in their ideas of the value of good, dairy plant housekeeping, but all seem to be agreed that many values are to be had.

In What Part of a Dairy Plant Will Good Housekeeping Most Likely be Found?

In the compressor or machine room. These rooms are often real show places in many dairies and it is well that they are. Most frequently they are spotless and orderly reflecting the pride of the engineer. The housekeeping here may have little relationship to the rest of the plant except possibly as an example to other workmen. Certainly a clean, orderly refrigerating machinery room has little relationship to the quality of the products of the plant.

In What Part of a Plant Will Good Housekeeping Most Likely Not Be Found?

Generally poor housekeeping in a plant will be reflected in the toilet, wash, or locker room. Here seems to be a "no-responsibility" room although the care of the room may be



DIFCO

Detection of Coli in Milk

Bacto-Violet Red Bile Agar

This medium is recommended for direct plate counts of the coliform bacteria in milk and other dairy products. Use of this medium for plating purposes is approved in "Standard Methods for the Examination of Dairy Products."

Bacto-Brilliant Green Bile 2%
Bacto-Formate Ricinoleate Broth

These liquid media are recommended for the detection of coliform bacteria in milk. Both media conform in every way to the formulae specified in "Standard Methods."

DIFCO LABORATORIES
INCORPORATED
DETROIT 1, MICHIGAN

"Tops-All" SCHOOL CAPS
THE FINEST MADE

Sold By
LEADING JOBBERS

"TOPS-ALL" School Caps are a popular favorite with dairies everywhere. When the pull tab is lifted there's a large round hole for the straw. Children like to drink milk through a straw from a bottle and "TOPS-ALL" School Caps make this possible. Send that order for "TOPS-ALL" School Caps to your favorite jobber today... he'll see that you get prompt service.

ROBERT S. LEONARD CO.
3 FACTORIES
MINNEAPOLIS · KANSAS CITY, MO. · DALLAS

under someone's jurisdiction. Here may be found the clue to the housekeeping of the whole plant: carelessness, lack of pride, disregard of responsibility and moral fibre of the plant personnel. Someone has well said "Show me the toilets of the plant and I'll show you the general quality of the plant". The public judges gas stations by the sanitation of their toilets. If a clean toilet is an asset to a gas station, how much more value is one to a dairy.

Poor housekeeping in a dairy is shown also by the back of the building, the back porch and surroundings where broken goods, junk and waste material may be allowed to accumulate. Here is where plant pests—vermin, mice, rats, flies, get a start.

How Can Satisfactory Housekeeping Be Attained?

Good housekeeping is difficult to attain and maintain in a plant unless there is the spirit and consciousness of good housekeeping. Good housekeepers are born and not made. However, three rules may be followed in the fair expectancy of results: (1) Put the responsibility of good housekeeping specifically onto someone; (2) expect to attain and maintain results; and (3) have an outsider to come in occasionally to check up on the plant housekeeping.

What Are Some of the Chief Values of Good Housekeeping?

It is difficult indeed to put a dollar and cents value on good plant housekeeping. However, certain advantages seem to result from good housekeeping. Briefly, some of them are as follows:

1. **Cleanliness and sanitation.**
2. **Good, orderly appearance.**
3. **Better workmanship.**
4. **More efficient operation.**
5. **Fewer accidents.**
6. **Pride in work, a high "esprit de corps" among employees.**
7. **Comparative freedom from pests. Flies wont want to come in.**
8. **Lower upkeep, for defective equipment is noted and repairs are made at once.**
9. **Advertising value.**
10. **Satisfaction in a job well done.**

Ice Cream Sales Building Film

The National Dairy Council has developed a new dramatic business-building sound slide film for use by ice cream manufacturers. The film and record is offered to the industry either on a low-cost rental basis or for outright purchase at the small cost of $5.00 complete.

The purpose of this film is to point out in an interesting and graphic manner various ways in which the ice cream manufacturer or ice cream dealer can profitably tie in with the National Ice Cream Nutrition Program sponsored by the Public Relations Committee of the International Association of Ice Cream Manufacturers. This program, under the direction of the National Dairy Council, is promoting ice cream as a nutritious food and is rapidly winning the confidence and support of key leaders throughout the United States who play such an important part in influencing the food habits of the nation.

The Public Relations Committee urges every member of the ice cream industry to make use of this film with employees and dealers as a means of spreading the story to the buying public that "ice cream is a nutritious food." This newly appreciated sales argument for ice cream must be advanced and promoted by the ice cream industry, if the national goal of a billion gallons per year is to be realized in the near future.

Descriptive literature giving complete details on the contents of the film may be obtained by writing the National Dairy Council, 111 North Canal St., Chicago 6, Ill. Send for this free literature at once and arrange to see this interesting film at your earliest opportunity.

Return Milk Bottle Campaign

Practical Program Instituted by Owens-Illinois to Recover Lost and Stray Empties

A practical milk bottle return program any dairy or group of dairies can utilize easily and inexpensively to meet milk bottle shortages has been arranged in handy kit form by the Owens-Illinois Glass Company of Toledo, Ohio and is being distributed free of charge to dairymen upon request.

The campaign includes complete plans for organizing a milk bottle roundup program, together with detailed suggestions on how to obtain maximum effectiveness. The program material includes newspaper advertising mats, newspaper publicity stories, news photographs, spot radio announcements, broadcasts and direct appeals to consumers.

With milk production in many parts of the country soaring to the highest levels on record, coupled with War Food Administration reports that the nation's consumption of fluid milk is running 25 per cent greater than the last pre-war year,

Milk Bottle Return Kit—Complete milk bottle return program in convenient kit form which contains all the material necessary for conducting a successful bottle return campaign in any community.

spokesmen for the dairy and glass container industries have joined in public appeals for the prompt return of "empties".

A number of factors have contributed to the temporary shortage of milk bottles. Among these are:

1. As a result of the elimination of Government Order No. 79, dairies are now permitted to sell unlimited quantities of milk and light cream without restrictions.

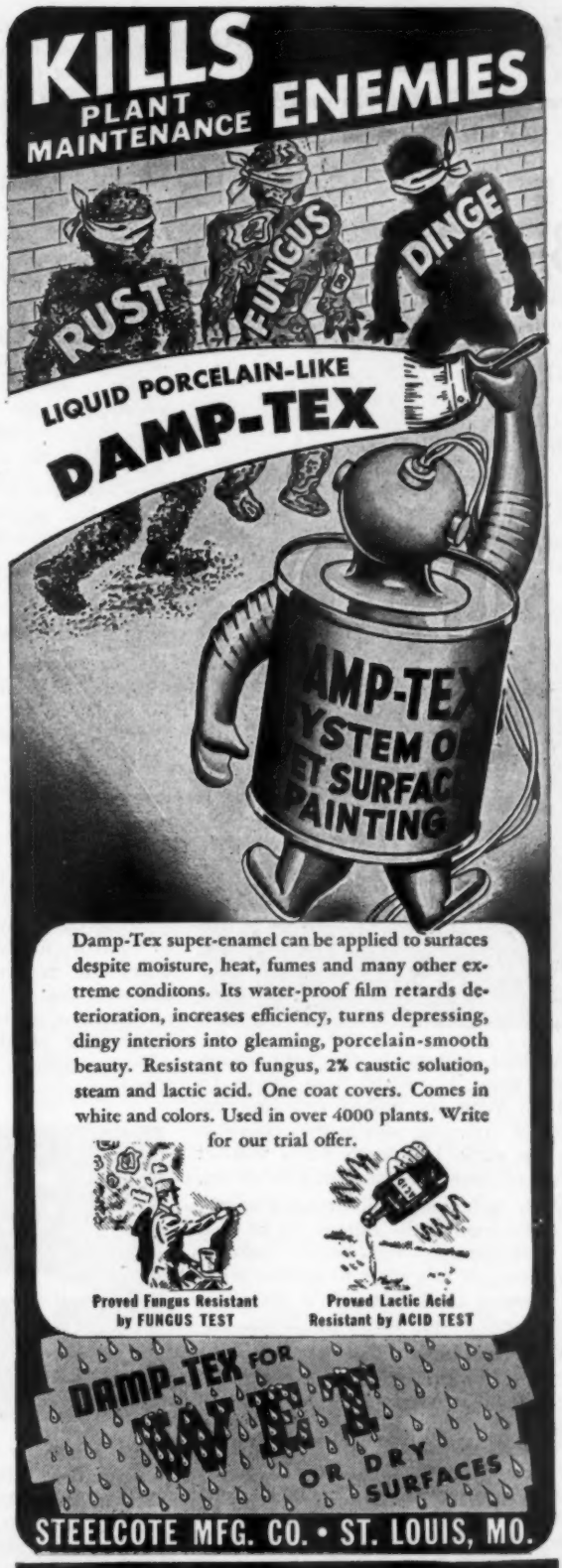
2. To keep dairy deliveries functioning smoothly eight milk bottles are required for each additional bottle of milk left at the doorstep. In some instances, reductions in the number of deliveries has increased this number to ten.

3. Meat shortages have caused many people to increase their milk consumption, particularly in families with children.

4. Bottle making plants are operating at capacity, with no additional bottle manufacturing facilities now available.

5. Reduction in the production schedules of other packaging materials has thrown additional burdens upon the glass industry.

6. Return of large numbers of service men from the fighting fronts, many of whom have not had opportunities to obtain fresh milk for long periods of time. This is coupled with an increasing demand for bottled milk, particularly in the half-pint size, in government hospitals where convalescent war veterans are treated. (Dairies in some parts of the country have also been hard put to supply the demands for bottled milk for trans-continental troop trains.)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RUST
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Damp-Tex super-enamel can be applied to surfaces despite moisture, heat, fumes and many other extreme conditons. Its water-proof film retards deterioration, increases efficiency, turns depressing, dingy interiors into gleaming, porcelain-smooth beauty. Resistant to fungus, 2% caustic solution, steam and lactic acid. One coat covers. Comes in white and colors. Used in over 4000 plants. Write for our trial offer.
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General Office: 1243 W. Washington Blvd., Chicago
ALSO SOLD IN CANADA: CREAMERY PACKAGE MFG. CO. OF CANADA, LTD., 267 King St. W., Toronto 2, Ontario.

Canadian Manufacturer: Standard Paint & Varnish Co., Windsor, Canada

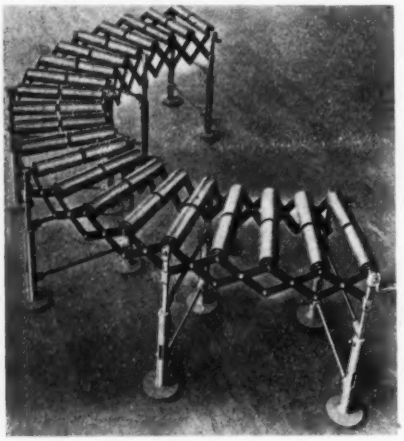
Using Our Separator

Items of Interest Skimmed From Here and There

Conveyors

BUILT BY Food Machinery Corporation, Riverside, Cal. division, to meet the "assembly line" needs of packing houses, an accordion, portable, conveyor system is now available, according to a recent announcement.

The system, which can be set up by one man, has several unique features. Coming in open lengths of 60 or 100 inches, the sections can be folded like an accordion to 21 or 35 inches. The shorter section has four telescopic legs and the longer six telescopic legs. The latter feature permits movement of material by gravity alone.



Another feature is the split rollers which come in widths from 10 to 18 inches. With the rollers split in two, material traveling down the conveyor can be made to take S turns without falling off, or without the need for siding.

With each roller built to carry a load up to 80 pounds, the system can be used for transporting semi-heavy material from one part of a plant to another without moving fixed features in buildings, such as pillars and heavy machines.

Visionaries believe that, because of its accordion feature, the conveyor system may find wide retail and wholesale uses. One of the retail uses seen is the transporting of food cartons from outside storage rooms into the store and to the shelves themselves. This could be done after store hours, while during daylight hours, the conveyors could be set up to transport heavy customer purchases from the check stands to the parking areas. There they could be quickly loaded into waiting passenger cars.

Manufacturers using assembly line systems for moving raw products to machines and finished products away could use the system, moving it to fit individual needs of the moment.

Help Procurement

THATCHER MANUFACTURING COMPANY recently used a most unusual method in obtaining additional help for its Elmira, N. Y. factory. Due to the excellent relationship between Thatcher and Elmira dairies, special neck hangers for milk bottles were made stating that Thatcher needs help.

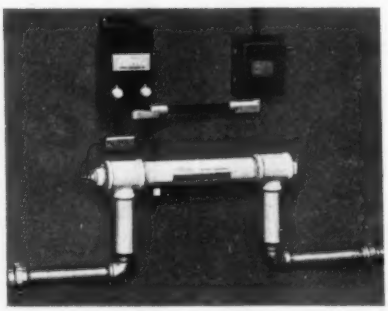
More than 12,000 of these neck hangers were then distributed to various dairies in and around Elmira. On various mornings of the week of July 9, neck hangers appeared on practically every doorstep in the city.

Due to the fine cooperation of the dairies the program was successful in that it not only brought more workers to Thatcher, but it helped promote the company and also aided each and every dairy by asking customers to return their empty bottles promptly.

Dairies taking part in the distribution were: El-Cor Dairies, Inc., Maple Farms, Royal Dairy Creamery, T. H. Bennett Dairy, L. J. Houck & Sons, Willowbrook Dairy, Wigsten Farms, X-Cel Dairy, Schornstheimer Bros. Creamery, and D. P. Hammond.

Electro Water Conditioner

THE ELECTRO Water Conditioner, according to the Stomac Engineering Company, now makes available to the dairy industry a pure, trouble-free water that steps up production and cuts down the cost of both product and maintenance, no matter what the type and consistency of the water—without the use of chemicals, compounds, or water softeners.



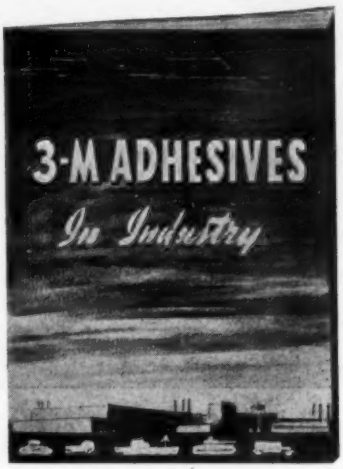
The process is said to be simple. By passing the water entering a boiler through an electric field of the proper intensity, the salts contained in the water act as a conducting medium, picking up an electrical charge and bringing the solution to the normal potential of the boiler tubes and other parts that the water flows through. Because the particles are charged there is not the voltage difference that would otherwise exist between the tubes and the liquid passing through them and thus no hard scale is formed.

The only maintenance expense connected with the Electro process is the monthly cleaning of a simple electrode. This is done by removing the electrode and cleaning it with a wire brush or wire buffing wheel—a job which takes not more than 20 minutes with a minimum of manual labor.

Further information and literature on the "Electro" Water Conditioner can be obtained by writing the Stomac Engineering Co., Inc., 2000 West 25th St., Cleveland 13, Ohio.

Adhesives

A NEW 12-page booklet, "3-M Adhesives In Industry," which should be interesting and helpful to users of adhesives, sealers, coating or insulating compounds, impregnators and sound-deadeners, has just been announced by the Minnesota Mining & Manufacturing Company.



The booklet illustrates and describes adhesive operations in many different industries, methods of application and a listing of the physical properties.

It lists various formulae and shows the viscosity, bonding range, color, weight, characteristics and uses and Government specifications. Each booklet contains an adhesive project sheet for the analysis of any adhesive problem.

For free copies, address the Advertising Department, Minnesota Mining and Manufacturing Company, St. Paul 6, Minn.

Orange Juice

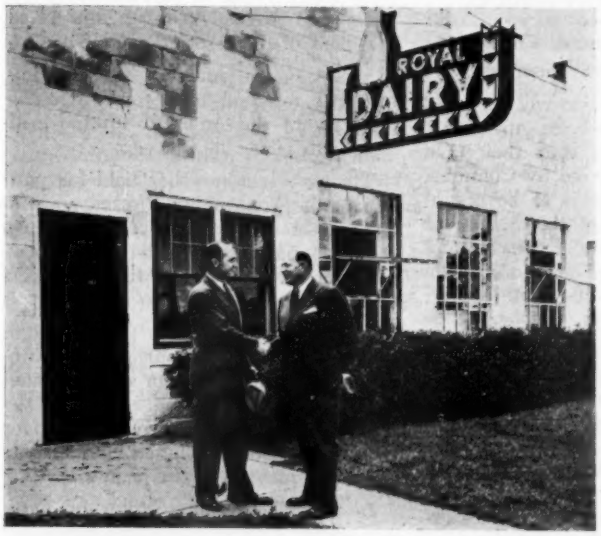
CONDENSED ORANGE JUICE, introduced to the dairy industry by Green Spot, Inc., of Los Angeles, Cal., six months ago, is now sold by over 500 progressive dairies that are delivering the bottled product along with their

(Please Turn to Page 357)

McCubbin Manages CP Sales Branch

Worked in Omaha Territory Since 1940 — Succeeds John Overgaard Who Buys Royal Dairy in Omaha

According to a recent announcement, W. G. McCubbin has succeeded to the managership of the Omaha Sales Branch and Warehouse of The Creamery Package Mfg. Company. John Overgaard, the former CP Omaha Branch manager, left CP to become co-owner and general manager of the Royal Dairy, Omaha.



"Congratulations"—"Mac" McCubbin (at left), new manager of CP's Omaha Branch, shakes hands with his old boss, John Overgaard, the new owner of Royal Dairy, Omaha.

In '37 Mr. McCubbin became Executive Secretary of the Nebraska Cooperative Creameries, Inc., which position he held until joining the sales staff of CP's Omaha branch in April of 1940. For the last three years he has had charge of Omaha City sales, handling national accounts.

Joins Creamery Organization

Dr. Cloyce L. Hankinson Appointed Head of Research of North American Creameries

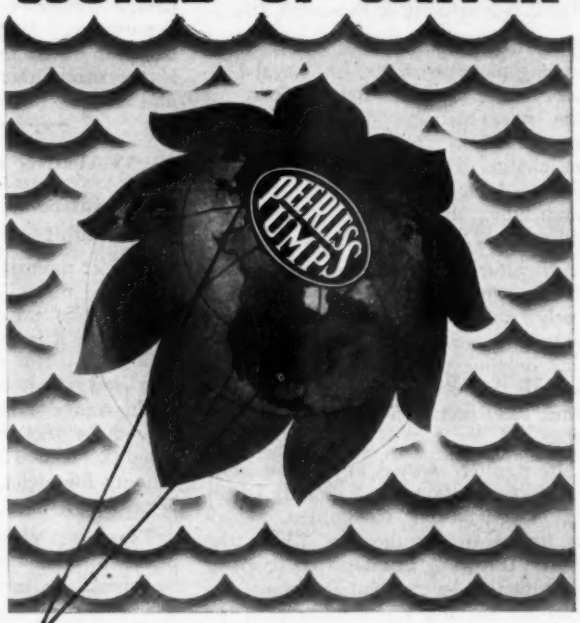
North American Creameries, Inc., Minneapolis, Minnesota announces the addition of Dr. Cloyce L. Hankinson as Director of Research and Control Laboratories.

Dr. Hankinson is very well known in the milk industry where he has done much research work on milk constituents, particularly proteins and enzymes; purification and isolation of crystalline rennin; the heat processing of milk; and, the development of new food products.

Dr. Hankinson comes very well equipped to perform his new duties. He obtained his Bachelor of Science degree in Agriculture at Michigan State College in 1934 and Master of Science degree in Dairy Manufacturing at the University of Connecticut in 1935. He was Dairy Technologist at the University of California, 1935-1936, and Graduate Assistant and Instructor in Agriculture Biochemistry at the University of Minnesota, 1936-1939. In 1939 he received his Ph. D. in Agriculture Biochemistry at the University of Minnesota.

More recently he has devoted his time to research chemistry for the Carnation Research Laboratories, Milwaukee, Wisconsin.

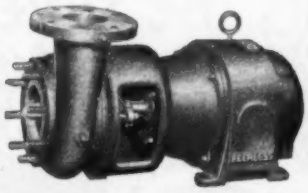
FOR A NEW WORLD OF WATER



PEERLESS now produces HORIZONTAL as well as Vertical pumps

With the recent acquisition of Dayton-Dowd Company, PEERLESS now can supply a pump for any need, including SPLIT-CASE horizontal centrifugals. Vertical and horizontal types are made in capacities from 10 to 220,000 gallons per minute.

If you are planning to "step up" your water supply, consult with PEERLESS. You will benefit by new PEERLESS developments... increased precision, improved designs, enlarged engineering service.



PEERLESS PUMPS

PEERLESS PUMP DIVISION
Food Machinery Corp.

FACTORIES
LOS ANGELES 31, CALIFORNIA
301 West Avenue Twenty-six
QUINCY, ILL. • CANTON 6, OHIO

Reisner Joins Agency

Former De Laval Advertising and Sales Executive to Represent Agricultural Advertising & Research, Inc.

Charles L. Reisner, until recently advertising manager of the De Laval Separator Company and for the past six years sales manager of that concern's dairy division, has been appointed to take charge of the new New York City office of Agricultural Advertising & Research, Inc., that will be opened September 15 at 29 West 57th St.

Agricultural Advertising & Research specializes in farm advertising and works closely with organizations providing goods and services in the agricultural field, helping to promote the flow of goods both between manufacturer and farmer and between farmer and consumer.

Mr. Reisner assisted in the formation of the Association of National Advertisers' Agricultural Committee, which has issued two studies on "What the Farmer Thinks of Business," in cooperation with the Agricultural Publishers Association. He also was a member of the committee representing advertisers, advertising agencies and agricultural publishers which is working with the Advertising Research Foundation in making readership studies of farm papers and magazines.

Mr. Reisner was born on a farm near Sterling, Ill., and was graduated from the College of Agriculture of the University of Illinois.

His first work was in the experimental department of the International Harvester Company factory at Rock Falls, Ill., after which he joined the Moline Plow Company, Moline, Ill., where he started his advertising career after six months in the factory.

Subsequently, Mr. Reisner went with the Sugar Creek Creamery Company, which operates a chain of centralized creameries. He returned to the Moline Plow Company, as assistant advertising manager and had charge of all production and copy when the concern organized a completely equipped advertising department. From Moline, he transferred to the De Laval Company, a leader in the manufacture of cream separators and milking machines.

TRAINING FOR VETERANS

Short Intensive Course For Those Intending to Start Businesses

A short intensive course will be given to train returning service men and women who expect to start their own businesses, it is announced by Columbia University. The course is to be organized and sponsored by the School of Business and University Extension and offered on the campus at Morningside Heights. It will be a full-time course, running for eight weeks, October 27 to December 21.

Two types of instruction will be emphasized: on the one hand, students will be given the essential business fundamentals in accounting, finance, marketing, organization, buying and inventory control, advertising, labor relations, booms and depressions, risk and insurance, taxation, planning and budgeting, and policy. On the other hand, they will be given special instruction in the operations and problems of particular types of small business.

The unique features of the course are its method of instruction and the opportunities it will offer students to learn from those who know small business. The instruction will concentrate on only a few subjects at a time. To inform students of special types of small business, the classes will be supplemented by panel discussions. These panels will be led by men experienced in operating small business or by men who are specialists in serving small business.

New Ohio Secretary

Ora E. Anderson Succeeds Russell Fifer Who Joins American Butter Institute in Chicago

Columbus, Ohio.—Ora E. Anderson, Salem, Ohio, district manager for the Dairymen's Cooperative Sales Association in the Youngstown-Warren area, has been named executive secretary of the Ohio Dairy Products Association, it was announced August 30, by Arthur Good, president of the association.

Mr. Anderson succeeds Russell Fifer, who has resigned to become executive secretary of the American Butter Institute, with offices in Chicago.

The new secretary has held his position in the Youngstown-Warren area for the last three and a half years. For two years he has also served as secretary-treasurer of the Ohio Milk Producers Federation.

A native of Magoffin County, Kentucky, Anderson was engaged in farming near Jackson, Ohio, for a brief period, after which he became editor of the *Jackson Herald* and correspondent for Columbus and Cincinnati newspapers and the United Press in Jackson.

In 1937 he became editor of *Farm and Dairy*, a weekly agricultural paper published in Salem, Ohio. He also assisted in establishing two dairy cattle breed publications, the *Ohio Holstein News* and the *Pennsylvania Holstein*. His work as district manager of the Dairymen's Cooperative Sales Association has included the editing of its monthly magazine, *Dairymen's Price Reporter*.

Mr. Anderson has had a wide experience in legislative activities on issues affecting the dairy industry.

Offices of the Ohio Dairy Products Association are located at 5 East Long St., Columbus. Members of the association are engaged in the operation of milk, ice cream and butter plants throughout Ohio.

T. JOHNSON CO., INC.

Manufacturers of Quality Tight Cooperage since 1877.

We Specialize In Barrels For Condensed Milk. Prompt Service.

Send us your inquiries.

1046 W. 38th St., Chicago, Ill.

HT-ST PASTEURIZATION

(Continued from Page 324)

temperature milk left the heater. This development work was done in our research laboratory with the able assistance of health officials and instrument manufacturers.

The next step was that of proving performance in actual plant operation to the satisfaction of State Health Officials and the U. S. Public Health Service. This proof of performance was supplied. Before a general release to the industry, however, it was deemed advisable that a study be conducted on pathogens to determine definitely the efficiency of the adopted pasteurizing temperature of 160 deg. F. and the holding time of 15 seconds. A committee was accordingly appointed by the Secretary of Health of the State of Pennsylvania. Apparatus was placed in our research laboratory where milk was inoculated and pasteurized. Inoculation of guinea pigs, together with autopsy and conclusions were by the Kirby Memorial Health Center, Wilkes Barre, Pennsylvania. (Pennsylvania Department of Health report dated December 22, 1931, covers the complete procedure.)

Included in this test were studies on milk inoculated with: 1—Human Tubercle Bacilli; 2—Bovine Bacilli; 3—Streptococcus Viridans; 4—Streptococcus Hemolytious.

Conclusions, quoted from the report are as follows:

1—The results obtained indicate that heat is the destructive agent and that hot water and electric current are equally efficient in the pasteurization of milk.

2—The York Plate Pasteurizer proved efficient in the destruction of tubercle bacilli and hemolytic streptococci at the time and temperature combinations used. The results indicate an ample margin of safety in time and temperature when the milk is heated to 160 deg. F. and maintained at not less than that temperature for at least 15 seconds.

3—The operation of the milk pump cut-out as a protection against the treatment of milk at a temperature below 160 deg. F. appeared satisfactory and in no way affected the efficiency of the pasteurizer.

4—The hemolytic streptococci evidently survive heating without holding better than the tubercle bacilli.

5—The York Plate Pasteurizer meets the structural, equipment, and operation recommendations set forth in the 1931 report of the Committee on Milk Supply of the Engineering Section of the American Public Health Association, and of the Committee on Milk Sanitation of the Conference of State Sanitary Engineers for controlling the process of high temperature-short time pasteurization.

SUMMARY OF RESULTS OBTAINED WHEN TREATING MILK INOCULATED WITH TUBERCLE BACILLI

Sampling point	Number of pigs: Inoculated	Positive	Negative	No record
Regeneration outlet ..	30	29	0	1
Holder inlet	42	0	42	0
Holder outlet	42	0	41	1
Cooler outlet	70	0	69	1
	184	29	152	3

SUMMARY OF RESULTS OBTAINED WHEN TREATING MILK INOCULATED WITH HEMOLYTIC STREPTOCOCCI

Sampling point	No. of samples	No. positive	No. negative	No. no record
Regeneration outlet ..	12	12	0	0
Holder inlet	16	12	4	0
Holder outlet	16	0	15	1
Cooler outlet	16	0	15	1
	60	24	34	2

We were able to proceed with the marketing of the system, but we needed the answer to the question, "What is the relative effectiveness in bacteria reduction of milk pasteurized by the high temperature-short time process compared with milk pasteurized by low temperature—long hold process?" For this study, we solicited the aid of Professors M. J. Prucha of the University of Illinois and E. H. Parfitt, then of Purdue University. They conducted tests in several

"Our Babies"

"Their Feeding, Care and Training" by Herman N. Bundesen . . . scientifically written book, complete with 12 booklets on baby care for each month. Just ask for your copies . . . at no charge.

OPEN THE DOOR TO NEW ACCOUNTS EASILY

You will even be welcomed by mother

That's the experience of milk dealers using the National Baby Book in big cities and small towns all over the country, to make new customers and build good will.

A new baby in your community means a new customer to you, with the aid of the National Baby Book. This book written by Dr. Herman N. Bundeson, with the collaboration of 50 famous baby specialists gives the new mother the vital information she needs in the proper care and feeding of her baby. 12 supplementary booklets and your firm's special message of congratulation on the inside front cover to the new mother reminds her constantly of your thought and service to her.

The cost is trifling and the results are little short of astounding. Over 9 million copies of this famous book have been distributed.

The post-war period is here. Competition will steadily grow more keen. Write today for full details and names of industry leaders using this sales builder.

NATIONAL BABY BOOK CO., Inc. 221 N. LaSalle St. Chicago, Ill.

commercial installations and in a laboratory having milk from the same batches available for a fair comparison. This work, quoting from conclusions, showed:

1—That high temperature-short time pasteurization of 161.5 deg. F. for 16 seconds appears equivalent in bacteria reduction to 144 deg. F. for 30 minutes by the long flow method.

2—That the high counts that appear occasionally in pasteurized milk are due to types of bacteria in raw milk that are not destroyed by the three methods of pasteurization studied.

Under (1), the summary was:

Method of pasteurization	Log average count/C.C.
161.50° for 16 seconds	8,200
144° for 30 minutes	10,500
Laboratory (144° for 30 min.)	5,950
Distribution of counts of 20 highest samples	(average)
H.T.S.T.	20,775
L.T.—Holder	21,775
Laboratory	17,605

DISTRIBUTION OF INDIVIDUAL COUNTS ACCORDING TO NUMERICAL VALUE

	Below 10,000	10,000 20,000	20,000 30,000	Over 30,000
H.T.S.T.	56.4%	28.7%	10.7%	4.2%
L. T. holder	38.2%	29.2%	23.6%	9.0%
Laboratory	65.6%	24.7%	7.6%	2.1%

Under (2) we learned that thermoduric bacteria was a real trouble maker and that this type of bacteria was not killed at any of the temperatures and holding times ordinarily used in pasteurization. Professor Parfitt made a further study of this contamination with these conclusions:

1—That a close control of thermoduric organisms is necessary for low bacterial counts.

2—That milking machines and milking equipment in a poor state of repair are important sources of thermoduric bacteria.

3—That the methylene blue test is not an accurate index of thermoduric bacteria.

4—That bacterial counts of milk pasteurized by high temperature-short time were equal to the low temperature—long hold method.

From these studies it is apparent that a good grade of raw milk is a requisite if a low count pasteurized milk is expected, regardless of the system of pasteurization employed.

"How about the cream line" is usually a question. The cream line of milk pasteurized by the high temperature-short time process is usually equal to that of the low temperature pasteurized product and in numerous cases a definite improvement has been noted, especially where outmoded equipment was replaced. We have noted that cream on high temperature-short time pasteurized milk, in some few cases, did not rise and collect as quickly as on the formerly low temperature pasteurized product.

Plate heat exchangers have made possible the industry's rapid adoption of high temperature-short time pasteurization in that they allow the movement of milk in a thin film and at a rapid velocity; thus milk is held at the critical temperature for a minimum length of time. Further, a large amount of work, heating and cooling, is accomplished through the use of milk to milk generation (usually 80%) resulting in the lowest cost for pasteurization. Regeneration is positive, as there is no time lag between holders as is usually encountered in low temperature holder systems. Water for precooling is dispensed with in most cases.

All three duties, that is, heating, regeneration, and final cooling, using sweet water or calcium brine, can be arranged on a single frame, thus occupying the smallest amount of floor area, usually at a premium, in the pasteurizing room. Separate ammonia-type coolers can, of course, be used if desired.

Accompanying drawing shows in diagrammatic arrangement the plate type pasteurizer and the auxiliary apparatus usually employed. Raw milk is fed by gravity or by a low pressure centrifugal pump to a balance tank fitted with a float valve to regulate the milk flow. Raw milk is sucked from the balance tank through the regenerator to the milk pump, or in a two pump system, moved by a centrifugal pump through the regenerator to the second pump.

The U. S. Public Health Service Code requires that raw milk in a milk to milk regenerator be at a lower pressure than the pasteurized milk, which is a safety feature to prevent leakage of raw milk into pasteurized milk in the event of plate failure. With 40 deg. raw milk and 80% regeneration, this milk is heated to approximately 138 deg. F. by the pasteurized milk. Raw milk is moved from the pump through the heating section wherein it is heated to the pasteurizing temperature with hot water about 2 to 3 deg. higher than the outlet milk temperature. The pump must be of a positive type similar to the Waukesha and, preferably, should be fitted with a Varidrive to allow locking at the rated capacity of the pasteurizer, which is a U. S. P. H. Code requirement.

From the heater the milk passes directly through the pipe line holder, and if properly pasteurized (above 160 deg. F.), it goes directly through the flow diversion valve into the regenerator where it is cooled by the 40 deg. incoming raw milk from about 162 deg. F. to about 64 deg. F. The final cooler reduces temperature of the milk to a bottling temperature of about 38 deg. F.

If milk reaching the end of the pipe line holder has not been properly pasteurized, that is to say that it is under 160 deg. F., it is automatically diverted to the milk pump suction and again circulating through the regenerator, heater, and holder until it is properly pasteurized. This flow diversion valve is the main safety feature and a U. S. P. H. Code requirement.

(To Be Continued)

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ICE CREAM MANUFACTURERS
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173 CHAMBERS STREET NEW YORK

JOB OPPORTUNITIES

Washington, D. C.—"Job Opportunities for the Veteran in the Wholesale Ice Cream Industry" is the title of a 28-page illustrated brochure, depicting to the returning GI the opportunities for life employment in the wholesale ice cream business. Published by the International Association of Ice Cream Manufacturers, the bulletin is well illustrated, showing the different departments of the plant, and gives a full description of the manufacture, distribution and retailing of ice cream.

The booklet is full of statistics on the ice cream industry in the United States and Canada,—in fact, it gives a complete picture to the returning veteran of what lies ahead of him should he elect to enter the wholesale ice cream industry in some phase of work which will match his ability. The collegiate and non-collegiate courses in the dairy colleges are also stressed.

The armed forces have already ordered 5,200 copies of this booklet for reference work in their occupational courses. In distributing this to the members, the Association's Washington New Letter, published by the Executive Secretary, Robert C. Hibben, states:

"The principal job of industry today is to see that every returning veteran has a job. We know that ice cream manufacturers the country over are conscious of this obligation on their part, not only to take back the veterans of the war who care to come back into their organizations, but also to leave the door open for opportunities for other young men and women coming back from the armed forces to have suitable employment in the wholesale ice cream industry."

CONNECTICUT CONSUMPTION

From data obtained from Market Administrator and Dairy and Food Commission the consumption of fluid milk in Connecticut increased 50% between January 1940 and June 1945. Beginning October 1943 a federal limitation order restricted dealers' sales of fluid milk, but recent liberalizing of quotas permitted resumption of the upward trend.

The per cent increase in fluid milk consumption in Connecticut was about the same as in Buffalo and Chicago. It was greater than in Boston or New York City. Changes between January 1940 and June 1945 were: Buffalo, +51% Connecticut, +50%; Chicago, +46%; Boston, +33% New York City, +31%.

Although much higher than formerly, the current rate of daily consumption in Connecticut averages a little less than one-half quart of milk per person. The present level of use is still below that recommended by nutritionists.

FROZEN DESSERT MIXES

Washington, D. C.—Liquid ice mix, liquid ice cream mix and liquid sherbet mixes have been transferred to coverage of the regulation governing maximum prices of ice cream and ice cream products, OPA announced September 4.

The purpose of the action is to simplify pricing by bringing all ice cream products and other frozen desserts under a single regulation. Ceiling prices for the products transferred to the ice cream regulation (MPR-577) have not been changed.

The actions were taken in Am. 1 to MPR-577, Am. 106 to Revised Supplementary Reg. 1 to GMPR and Am. 55 to MPR-280, all effective at once.

NEW PASTEURIZING PLANT

Murfreesboro, Tenn.—Construction of a modern milk processing plant, to produce pasteurized and homogenized milk, will start operations here soon according to a recent announcement by R. T. Bell, Jr., who with associates will own and operate the concern.

The plant will be located on the Bell farm on the Manchester Highway.

STAINLESS STEEL
MILK STORAGE TANKS
for Safe, Clean Storage

STAINLESS STEEL MILK STORAGE TANKS FOR SAFE, CLEAN STORAGE—

METAL-GLASS PRODUCTS COMPANY has designed these Stainless Steel Storage Tanks — especially for the dairy industry. Their engineers have consulted with large and small producers — and drawn on their own experience — in order to develop this tank that incorporates every modern and practical feature. They are the most modern development in tanks for your milk storage problems.

FULLY INSULATED—BUILT TO SERVE LARGE OR SMALL DAIRIES EFFICIENTLY—

Efficient insulation is provided by a layer of the highest quality cork board between the Stainless Steel Tank and the outer jacket. This insulating material is completely sealed against moisture and provides perfect insulation against any temperature changes. Regardless of the size of your plant one of these tanks will simplify your milk storage problems.

Made in 6 sizes—up to 3,000 gallons. Write for LITERATURE and PRICES.

METAL-GLASS PRODUCTS CO. Dept. D. B. **Belding, Mich.**

KLENZADE PRODUCTS EXPANDS

New Building Houses all Departments and Provides Enlarged Facilities

With the formal opening of their new plant September 15th, the Klenzade Products Corp., Beloit, Wis., have completed the first step in a program of post-war expansion and development for manufacturing a line of chemicals especially designed for sanitation control and cleaning in dairies and other food processing plants.

The new plant will combine all operations at one centralized point to include general offices, salesrooms, chemistry laboratory, bottling and powder plants, shipping rooms, warehouses, garage and truck maintainence departments.

Total area of the new structure is 40,000 square feet. Installation of new equipment has been going on for several months past and is still far from complete, due to war restrictions.

When final installations have been made, the plant is expected to increase its output from 300 per cent to 500 per cent, according to Arthur L. Shogren, president of the firm.

NEW POLY. INSTITUTE COURSE

Graduate Instruction in Dairy Technology at Brooklyn Institution

The Department of Chemical Engineering of the Polytechnic Institute of Brooklyn, has announced the introduction, for the academic year 1945-46, of a new graduate course on the Technology of Dairy Products. This course, designed to cover the technological, sanitary and manufacturing aspects of the production of milk and milk products, is to be given under the direction of Dr. Morris B. Jacobs, Senior Chemist of the Chemical Laboratories of the Department of Health of the City of New York.

Dr. Jacobs is well-known as a contributor in the field, and as the author of the widely-used treatise on the chemistry and technology of food and food products.

In this course Dr. Jacobs will deal with the physical and chemical properties and composition of milk, and with its pasteurization, fortification, homogenization, bottling, and marketing. Attention will be given to the manufacture of cream, butter, cheese, ice cream, and other frozen deserts, as well as to the evaporation, condensation, and drying of milk and milk products. Special emphasis will be given to the bacteriological and chemical control of these manufacturing steps.

The course will be given at the graduate level for people with complete training in chemistry and chemical engineering. The course of lectures is scheduled for Wednesday, from 6:00 to 8:00 p.m. Registration will be carried on during the week of September 24, and classes will begin on Wednesday, October 3.

Further details may be had from the Office of the Graduate School, Polytechnic Institute of Brooklyn, 99 Livingston St., Brooklyn 2, N. Y.

H. R. HANSON JOINS AGENCY

H. R. Hanson, formerly advertising manager of The Pfaudler Company in Rochester, N. Y., has joined the staff of the Charles L. Rumrill & Co., Rochester advertising agency.

While with The Pfaudler Company, Mr. Hanson directed the advertising, sales promotion and employee relations' programs of the company and also edited "The Glass Lining" the company's house organ.

ARTIFICIAL INSEMINATION

Artificial breeding service is available in almost every agricultural county of New York State. Dairy breeds with established services are Holstein, Guernsey, and Ayrshire, but other breeds may be added.

SONIC OSCILLATOR AND RADAR

Manufacturer of Milk Processing Machine Pioneered Radameters

Harold J. W. Fay, president of the Submarine Signal Company, Boston, in a recent statement said that the company's Radameter is a fully automatic apparatus that operates by beaming a short wave radio impulse away from the ship. The impulse bounces back as an "echo" when it hits any obstruction on the water. With incredible precision, it automatically times the return of the radio impulse and notes the direction from which it comes.

H. J. W. Fay

Since radio waves travel at the rate of 186,000 miles per second, the speed of light, and since the apparatus sends out thousands of impulses every second, the timing device has to be hundreds of thousands times as fast and as accurate as the most accurate stopwatch. The second is too big a unit of time to be used by the radar engineer, who measures time in "microseconds"—one millionth of a second.

Mr. Fay revealed that Submarine Signal has been working on radio echo ranging for more than twenty years, ever since the company came out with the first practical echo ranging device immediately following the First World War. This device was the Fathometer, which sends sound wave impulses under water and times their return as echoes.

Along with the company's developments of the Radameter and Fathometer, the Sonic Oscillator also was perfected that utilizes the same engineering principles employed in creating sound waves. The Oscillator is now being used in milk plants for the purpose of homogenizing the product by subjecting it to intense vibrations and sound waves.

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Phone Main 0461

USING OUR SEPARATOR

(Continued From Page 350)

milk. Hundreds more are planning to do so as soon as restrictions such as labor shortages, plant and delivery congestion are relieved, according to a recent Green Spot statement.

The "condensed" product is shipped in compact form under refrigeration to dairies who add only pure water to restore it to original orange juice consistency, bottled and from then on handled just like milk.

The cost is said to be well under OPA ceiling prices and bottled sells to the consumer at a substantial saving—showing the dairy plant a handsome profit.

Green Spot orange juice has been officially graded by the U. S. Department of Agriculture as "Grade A—Fancy" and the condensed product has been awarded the seal of approval by the Nutritional Council of the American Medical Association.

Over 100 dairy supply jobbers carry stocks in cold storage so as to supply dairy customers quickly.

S. S. Valves

CERTIFIED ALLOY VALVE COMPANY has been formed as a new division of The Cooper Alloy Foundry Company, Hillside, N. J. The new company will specialize in the manufacture of stainless steel valves for which it will furnish a certified analysis of every part which comes in contact with liquid.

This arrangement brings the entire metallurgical, engineering and manufacturing process under one roof, including casting, heat-treating, machining and testing. The new division will have all the advantages of Cooper's more than 15 years' experience in the design and engineering application of many types of stainless steel valves and fittings.

Case Washer

GIRTON MANUFACTURING COMPANY of Millville, Pa., announces the addition of a new de luxe empty case washer to their line. This washer is modern and streamlined in design, with all operating mechanism completely encased within the body of the washer. Color has been skillfully used to complete the appearance of the machine.

All parts of the machine are readily accessible to the operator for cleaning and maintenance even though they are completely enclosed. Several refinements of construction have been introduced which make cleaning and maintenance a simple matter.

In operation the empty case washer is placed between the soaker washer and the bottle filler. It subjects the milk bottle case to a vigorous caustic wash under pressure and follows it with a pressure rinse of clear water. The cases come out clean, bleached, and sterile, ready for filling.

Up-ender

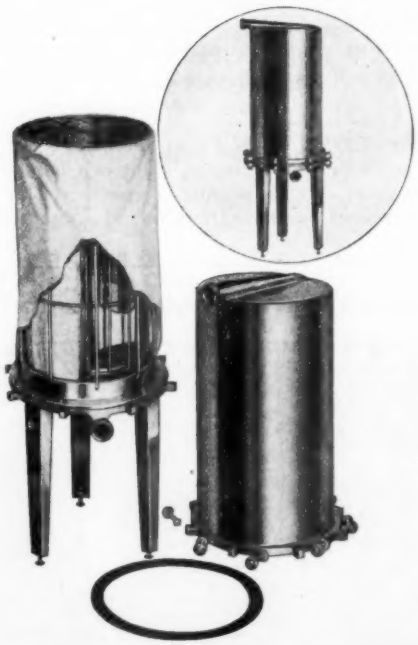
LIFTING DRUMS on end was a back-breaking job for men at the loading dock until a home-made air-lifting device was installed, according to the Educational Committee of the Compressed Air Institute, Terminal Tower, Cleveland, Ohio.

Now, the drums, weighing a half-ton, are rolled to the air lift, air pressure is applied and the drum pops up like a match stick. An old double-acting cylinder type of air hoist and a three-way valve were used to make the man-saver.

Vitamin D-3

THE DU PONT COMPANY is now supplying its Vitamin D-3 product for the fortification of evaporated milk.

Ths product is produced by irradiating with ultra-violet light a sterol of animal origin. It has been adopted by a number of evaporated milk producers.



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The Stoelting Advanced Raw Milk Filter does a better job because of its DOUBLE filtering system, removing even the finest particles of sediment. The extra large area of the *two* filter bags provide adequate capacity for volume production and maintain uniform filtering effectiveness by dispersing sediment over the entire surface.

Inlet and outlet can be opposed in eight directions thus saving valuable space and extra pipe fittings.

Cannot be overloaded. Requires no limit switches. Parts easily removable for cleansing. Capacity: 35,000 lbs. per hour with proper centrifugal pump. Total capacity up to 75,000 lbs. per hour depending on condition of *milk*.

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Advanced Dairy Equipment

You Can *Rustproof* 25 MILK CANS-

With this Handful of SORENSEN'S ELECTRO E-P PLATER BUTTONS

One button to a can is all it takes! Sorensen's E-P (Electro-Plater) Buttons rescue your rusty cans and rustproof your new cans, while they are in use. The lactic acid in milk or cream sets up the electro-plating action of E-P Buttons which replates rust spots in old cans, prevents rust in new cans. 22c a can protects your cans from rust, adding many months or even years to their life. Proven by years of success—thousands in daily use. Positively no taints or off flavors. Order E-P Buttons to-day for ALL your cans—use coupon below.

TYPICAL USERS

Sanitary Farm Dairies, Cedar Rapids, Iowa.
Alamito Dairy, Omaha, Nebr.
Knudsen Creamery Co., Los Angeles, Calif.
Boyden Farmers Creamery, Boyden Iowa.
Lyon County Cry., Tracy, Minn.
Ithaca Dairy Prod. Co., Ithaca, N. Y.
General Ice Cream Corp., Schenectady, N. Y.
Frank Pilley and Sons, Omaha, Nebr.
Northland Milk & Ice Cream Co. Minneapolis, Minn.
Bowman Dairy Co., Chicago, Ill.
Meriden Creamery, Hutchinson, Kans.
Twin City Milk Producers, St. Paul, Minn.
Turtle Lake Co-op. Cry., Turtle Lake, Wis.

PUT BUTTON INSIDE COVER

Where cans are agitated on milk route service, users are reporting excellent results by putting button inside the cover, instead of on bottom of can as illustrated.

CROMATIN

Adds years to life of Vats and Tanks

CROMATIN (Sorensen's RETIN) is 3 TIMES HARDER than ordinary tin. Comes in powder form—just mix with water and brush on like paint, then heat with blow torch. Makes a smooth hard coating guaranteed for five years. Does not corrode! Stainless! Flavor of vat contents not affected. One pint can will usually resurface the area of a 200 gallon tank.

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Name of Firm.....

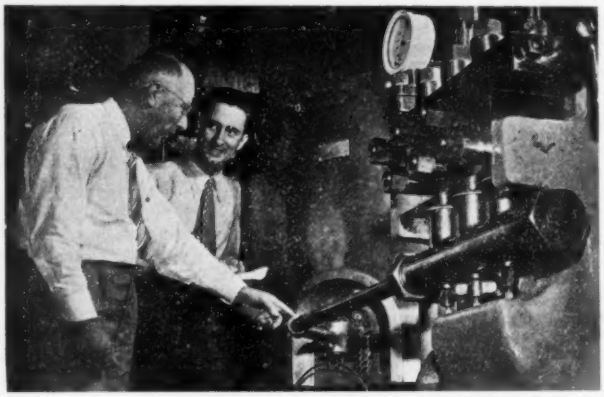
Authorized Signature .....

Address.....

Future Bakers Inspect Plant

Students Obtain Information First Hand on Milk Drying at Land O'Lakes Branch in Wisconsin

Thirty-six advanced baking students at the Dunwoody Industrial Institute of Minneapolis spent August 29th inspecting the milk drying plant of Land O'Lakes Creameries, Inc., at Luck, Wisconsin. Under the supervision of William G. Rice, Land O'Lakes official, and A. J. VanderVoort of the school, a detailed explanation was provided the prospective bakers regarding each step of manufacture in both the sprayer and roller processes.



Wm. G. Rice (left) explains processing equipment to student George Schoettinger, of Cincinnati, Ohio.

A comment by VanderVoort offered an indication of the educator's thinking as to the importance of dry milk. He stated that with dry milk now assured, it would play an even greater role in the baking industry in the years just ahead. This visit clearly demonstrated to the bakers-to-be the quality measures and care going into powdered milk production.

Current plans call for additional educational visits now being scheduled.

COMPLETING NEW CONDENSARY

Sparta, Ga.—The new condensing plant being built here by Hancock Creamery, Inc., is nearing completion. The plant will be jointly operated by Dixie Dairies of Macon and Saneken's of Augusta.

Attention-catching Council Display

Illustrated herewith is a scene showing some of the educational work being done in the schools of Dayton, Ohio, by the Dairy Council of Dayton. Miss Marguerite Krebs is the director of this Council unit that pushes aggressively to promote the best interests of the dairy industry.

MARKET AUDITOR RESIGNS

Alfred Sperber, chief auditor of the New York Metropolitan Milk Marketing Area, has announced his resignation from that position to form the public accounting firm of Alfred Sperber & Company with offices at 1450 Broadway in New York City.

Mr. Sperber was recruited from public accounting practice, where he had specialized in dairy auditing, for service on the staff of the Market Administrator in 1938. The federal-state orders regulating the sale of milk were first made effective in the New York Metropolitan Market at that time. Originally employed as a field auditor, he was subsequently designated a supervising auditor.

The late Capt. N. J. Cladakis, who was Market Administrator from May 1940 until he entered military service in 1942, appointed Mr. Sperber chief auditor early in 1941. He has continued in that post under Dr. C. J. Blanford, the present administrator.

The resignation will become effective September 15.

JULY FOOD SALES

Washington, D. C.—United States Department of Agriculture sales of government-owned food during July totaled $193,406, compared with $1,070,148 the previous month. July sales brought the total amount sold since May 1, 1944 to $36,768,477. The sale of declared surplus property, for which USDA acts as the disposal agency, was $2,595 during the month, compared with $245,293 in June. The balance was made up of USDA-owned commodities, including items released in regular stock turnover operations and in inventory reductions, and those purchased originally in price support operations.

Dairy and poultry products returned $49,600, or approximately 26 per cent of the total. Of this amount, $45,600 was from the sale of evaporated milk.

Classified Advertising

RATES: "Position Wanted," 50c. Limit of 50 words; 2c for each additional word. All other advertisements, 5c a word ($1.00 minimum). Keyed ads, 15c extra to cover return postage. The name and address should be included in counting the words.

All payments strictly in advance.

HELP WANTED

EXPERIENCED soft cheese maker and helper wanted AT ONCE. Please state salary expected and all particulars in first letter. Write Box 132, care this publication. 9-M

SALESMEN—Excellent opportunity in some available territories for salesmen who are well acquainted with executives and now sell other products to ice cream and dairy companies within restricted areas, to handle high quality line of fresh fruit citrus flavors for sherbets and drinks. Liberal commissions. Exclusive territory. Advise lines now handled, other details, territory covered. Write President, P. O. Box 1101, Orlando, Fla. 9-M

WANTED — Man experienced in Sour Cream manufacture to take charge of small plant in New York Metropolitan area. Excellent future. Box 137, care this publication. 9-M

WANTED — Working foreman for milk plant operation handling several thousand gallons per day. One who understands starters, checking of routes, testing, standardization, pasteurization and with an interest in cleanliness of plant. Write: Metzger Dairies, P. O. Box 899, Dallas 1, Texas. 9-M

OPENING AVAILABLE for man with thorough knowledge of bottle milk and ice cream manufacturing and plant operation. Capable of working with and supervising men. College training in dairy manufacturing helpful but not required. Position permanent. Give age, draft status, previous employment, experience and earnings. Reply will be held in complete confidence. Plant located in the middle west. Box 131, care this publication. 9-M

WANTED

WANTED TO BUY—Wholesale or Retail Milk business in or around New York City. Box 138, care this publication. 9-M

TRUCK BODY FOR SALE

FOR SALE—One insulated Ice Cream truck body. 9 ft. 6 in. long, 6 ft. 6 in. wide, 4 ft. 4 in. high. 4 in. insulation all around. Two compartments, one door for each compartment on right hand side. One copper brine tank in each compartment. Excellent condition, used only short time. Isaly Dairy Co., 1033 Mahoning Ave., Youngstown, Ohio. 9-M

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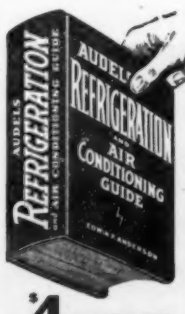

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TRUCKS FOR SALE

FOR SALE—Six Model 117 Diamond T Package cars for retail milk deliveries, 1939, 1940 models. Two Model M2 International milk delivery trucks. 1935, 1936 models. Isaly Dairy Co., 1033 Mahoning Ave., Youngstown, Ohio. 9-M

EQUIPMENT WANTED

WANTED TO BUY—2,000 gallon Stainless Steel storage tank, 400 to 500 gallon sanitary homogenizer, 1,600 to 2,000 gallon truck body for tank truck. Box 135, care this publication. 9-M

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WANTED—Part Skim Curd for the Italian Trade. Attractive and Permanent. Also Fresh Whey Cheese. Address Box 134, care this publication. 9-M-t.f.

EQUIPMENT FOR SALE

FOR SALE—$750.00. Demind Deep Well Turbine Pump. 25 H.P. Motor, 312 ft. 5 in. x 1¼ in. Flange column and shaft. 15 stage, 8 in. bowl assembly 20 ft. 4 in. suction pipe with strainer. 80 gal. per minute, 300 ft. head; 250 gal., 25 ft. head. Guaranteed in working order. Pump is in well. Will sell as is, buyer to move from well. Isaly Dairy Co., 1033 Mahoning Ave., Youngstown, Ohio. 9-M

FOR SALE—One Model E 8 in. wide Heil Soaker Washer—Reasonable. One C.P. Filler, good shape. Med-O-Land Creamery, 2849 35th St., Sacramento, Cal. 9-M

FOR SALE — Creamery Package brine cooler with float and surge drum with valves, complete, good condition. Box 136, care this publication. 9-M

FOR SALE—One McKinley straightaway can washer with cover replacer, six to eight cans per minute, good condition. One 3M gallon glass-lined vertical storage tank, fair condition. One No. 41 DeLaval steam driven separator. Two No. 70 De Laval separators with motors in perfect condition. One Doering butter printer, 1M lbs. per hour capacity, complete with table and conveyor, perfect condition. One Milwaukee "L" filler, 40 to 60 bottles per minute. One Popsicle mould freezing tank with surge drum, complete, capacity 200 dozen per hour. One Union Viscolizer No. 441—450 to 500 gallons per hour capacity, complete with motor and silent chain drive, new style bronze head completely removable with valves of stainless steel. Approved by New York City Board of Health. Above items in Eastern plant and available for immediate delivery. Box 133, care this publication. 9-M

EQUIPMENT FOR SALE

FOR SALE—One International Deisel engine, stationary, used three years, very good condition. One Creamery Package 4 can washer, very good condition. One Korn Diel dairy scale, needs reconditioning. All the above within ceiling prices. Nelson Creamery, Assn., Nelson, Minn. 9-M

FOR SALE — Stainless Steel Truck Tanks—1700, 1940, 2280, 2350, 3170, 3200, 3300 gallon capacity; Sanitary milk pumps with motors, all sizes; case washer, with conveyor, New York City approved; Milwaukee type "M" bottle filler, stainless steel bowl; 250 gallon C.P. homogenizer, bronze head with motor; 500 gallon New York City approved viscolizer, stainless steel, complete; McKinley straightaway can washer with cover replacer, 6 to 8 per minute, one 8 to 10, New York City approved; C.P. 3 to 4 per minute rotary can washer with motor; 200 gallon Oakes & Burger stainless steel round pasteurizer; No. 60 De Laval Cream Separator with motor and extra bowl; Two No. 70 De Laval milk separators, motor driven; one No. 41 De Laval steam milk separator; Cherry-Burrell G-160 sixteen valve stainless steel milk bottle filler; five 100-can cheese vats; 20 h.p. Leffel Scotch marine boiler and stack; Meyer Dumore bottle washers, comeback type; 50 h.p. upright boiler; 200 gallon Cherry-Burrell spray pasteurizer, stainless steel; Mojonnier over-run tester; 1,000 lb. Doering butter printer; 3,000 gallon vertical glass-lined storage tank. Sam Edelmann, 321 Broadway, New York 7, N. Y. WOrth 2-4975. 9-M

FOR SALE—100 and 200 gallon Stainless Steel Pasteurizers; Model 60 Mojonnier Vacuum Filler; G-7 Cherry-Burrell Nu-Line Filler; Type "BB", "B" and "L" Milwaukee Fillers; 4, 6, 8 and 12 Wide Soaker Type Bottle Washers; 6 ft. and 8 ft. Tubular Surface Coolers; 8 ft. Combination Direct Expansion (Methyl) Cooler, 48—1 in. tubes; Two 12 ft. Section C.P. Internal Tubular Cooler, or Heater each 12 pipe high; Von Gunten Filter, 17 in. x 25 in.; 12 000 lb. Peerless Glass Coated Filter; 1,000 lb. Two Compartment T. C. Weigh Can; Peerless T. C. Weigh Can 29x29x18; Rotary Can Washers, 3 and 6 cans per minute; 200 gallon Cheese Vat, s.s. lined; 4½x6 Davidson Bronze Plunger Pump. Reeves Drive and 1½ h.p. motor; No. 30 and No. 70 Motor Driven and No. 61 and No. 91 Steam Driven De Laval Separators; 350 gallon Jensen Vertical Coil Vats, s.s. linings and s.s. coils; 1,500 gallon Nickel Holding Tank; 2,000 gallon Pfaudler Holding Tank (By-products only); Bronze Head Homogenizers or Viscolizers ranging in sizes from 50 to 400 gallon in capacity; 3 ft. Copper Vacuum Pan; 10 h.p. Vertical Boiler and Stoker. Write or wire your requirements. Lester Kehoe Machinery Corporation, 1 East 42nd St., New York 17, N. Y. Telephone—Murray Hill 2-4616. 9-M

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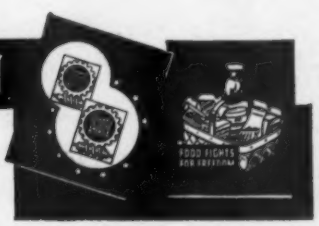
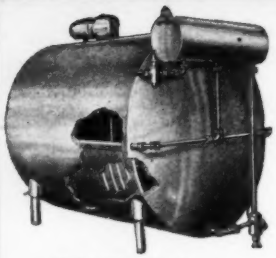
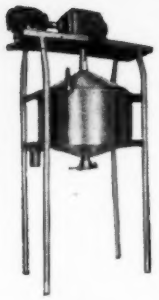
FACTORIES, WAREHOUSES, BRANCHES, OFFICES OR DISTRIBUTORS AT YOUR SERVICE IN 52 CITIES



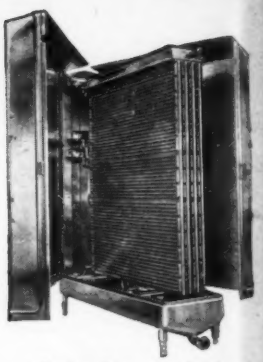


Cold Wall Tanks,
Horizontal or Vertical

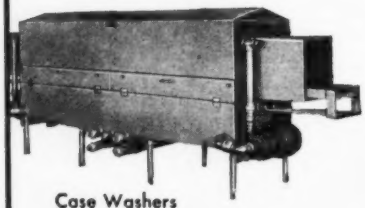
Counter-Current Vats



Processed Cheese Kettles



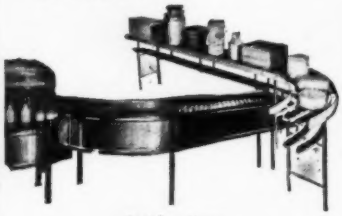
Senior Compact Coolers



Case Washers

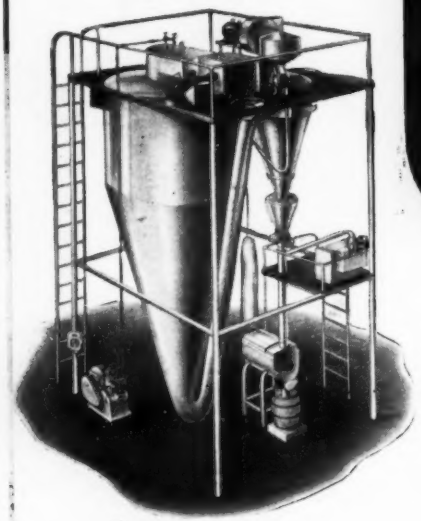
Serving AMERICA'S FINEST PLANTS

Vacuum Fillers



Bottle, Case
Can Conveyors

Tubular Heat Exchangers



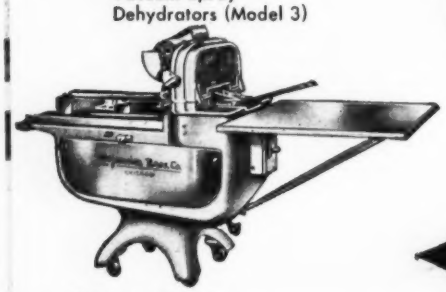
Vacuum Spray
Dehydrators (Model 3)

Milk Testers

Overrun Testers

Vacuum Pans

Tubular Evaporators



Cut Wrap Machines

Mojonnier

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PROCESSING EQUIPMENT